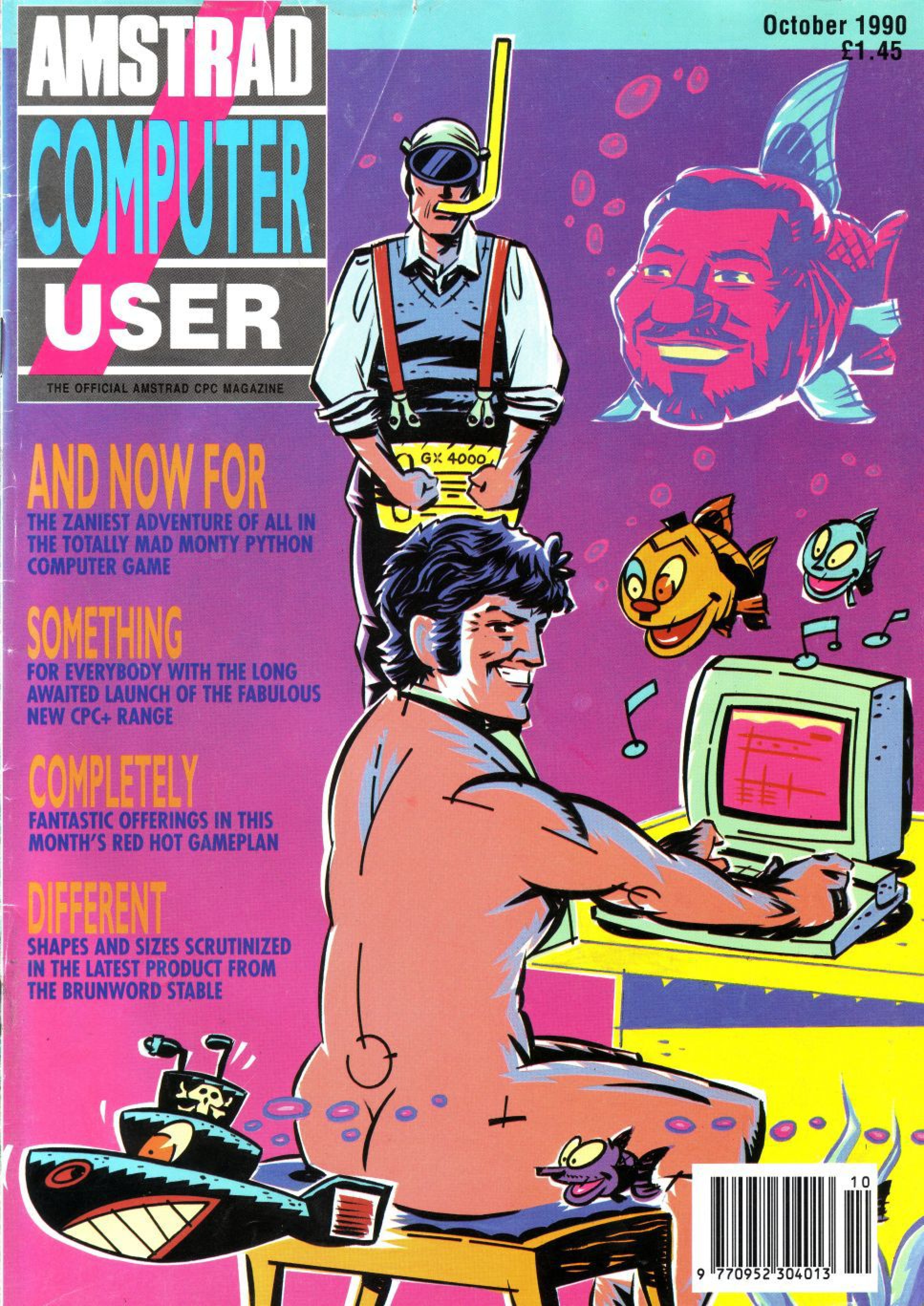


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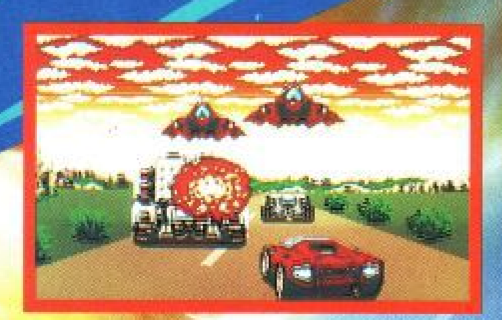
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As the pilot of an all powerful combat vehicle, you are engaged in the hot pursuit of terrorists. Go into combat and be confronted by enemies as different in their appearance as in their combat techniques.
The ability to take to the air will be your strength, use this to outmanoeuvre the enemy.
Pick up weapons, ammunitions and fuel. You'll have to work your way through the entire convoy and destroy the leading vehicle, before the ULTIMATE EXPLOSION.

NUCLEAR threat... *Stop.* DESTROYER CONVOY detected.. *Stop.* Wipe out the TERRORISTS.. *Stop.* Scientists in DANGER... *Stop.* IMMEDIATE ACTION...*End of transmission.*



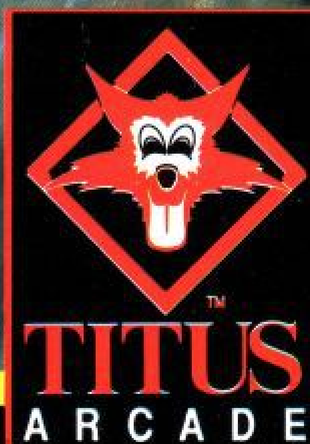






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WITH REAL MATCH TACTICS

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ACE RATED 900+

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KICK OFF

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Featuring:- Pixel Perfect passing
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"Has to be the best football simulation yet" ST USER

"Most playable soccer simulation in binary history" C & VG 88%

"Boots the other football simulations over the cross-bar" Zzap 96%

"Simply the best football sim" New Computer Express

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Play in a full scale eleven-a-side football game complete with sliding tackles, throw-ins, corners, goal kicks, fouls and even the dreaded referee with his red card.
Will you have what it takes to match the shooting skills of England's Gary Lineker's Hot Shot.

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Pack includes:

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A management game the way it should be played. Live the match thrills, as you compete to qualify for the Nations and World Cups.

You decide the play and enjoy the victories and suffer the defeats...

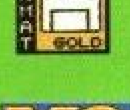
- Play defense, attacking or man to man marking
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- 54 computer managed squads from around the world all with individual tactics

"The best ever football managerial game ever, in the history of the World" C & VG 9/10

The ultimate management game" Ace Rated 929

"Easily the best of its type" Zzap 64 89%

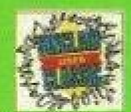
"The best ever managerial game" Sinclair User Classic 93%





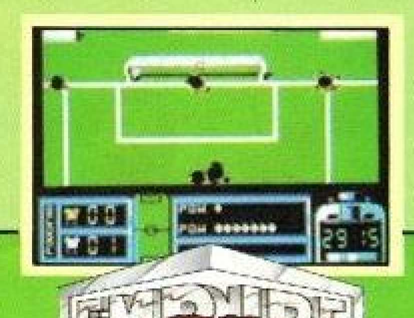












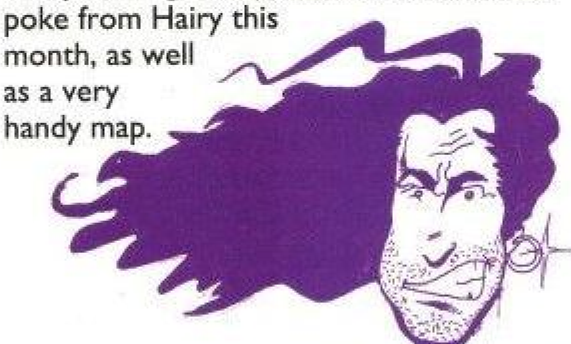


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ZIGGY'S MAILBOX

Firm solutions

Knowing how hard it is to get hold of a firmware manual for the CPC's (not to mention the money) and also knowing that there are a lot of budding young machine codists out there, I have put together a list of over 180 ROM routines and their addresses. Anyone who wishes a copy can send a stamped SAE (A4 if possible) and £2.50 for copying fees.

S. Bennett, 12 Whitbeam Grove, Hindley, Wigan, WN2 3SQ

Ziggy: There you are folks, that might just help you with some of Aunty John's little routines. The ACU team are also working on a permanent solution to the lack of Firmware manuals, so don't fret, help is at hand.

Looking for adventure

Having been an avid ACU reader since 1985, I've seen quite a few changes and not all for the better

What is really missing from the mag. is an adventure section..I long for one to be created and even offer my services for no pay if you will consider reinstating it!

Nick Brown, Hindley Green, Wigan.

Ziggy: Never fear Nick, yours is not the only plea for the return of the Adventure column. The ACU team has been thinking about its reappointment for some time now, but we need to know exactly what your views are, and what you yourselves would like to see. So, send in any ideas you have in the way of adventure and we'll see what we can do about putting matters straight.

CPC news

Please could you tell your readers about my new CPC newsletter which features reviews, news, cheats, cheap software and lots more.

It costs 30p plus a large SAE or 60p if I supply the stamped envelope. I hope you can do what Amstrad Action hasn't done for the last few issues and give my newsletter a plug.

Carl Surry, 37 Fairfield Way, Barnet, Herts, EN5 2BQ

Ziggy: Carl's newsletter really is packed with CPC goodies, so if you want a little extra for your favourite machine, give him a shout and order a copy now.

Dizzy Disappearance

Due to the absense of Vax during May's edition of ACU because of an addition to the Hacker family, ACU printed some useful maps sent in by us readers.

On page 24/25, Gary Smith provided an interesting map of Dizzy 3 with ACU's promise that the second half of the map would be printed in the June edition. Waiting in anticipation for the June copy, I was disappointed to discover no second half.

Woodhall Sparian, Woodhall Spa, Lincs

Ziggy: Alas, we're undone. 'Tis true we promised the second half, but during our move from the old address, Dizzy did a disappearing act and, despite frantic searching, we have not been able to locate him. If anybody wants to send in that elusive second half, it will be printed.

Art for Art's Sake

I recently obtained a graphics package including OCP Advanced Art Studio from Datel electronics. I was reasonably impressed with the package but, and it's a big but, I have little artistic talent in the practical sense.

Can you give me any advice on where I might be able to obtain a variety of ready-made pics for use with the program?

R. Page, Arundel Close, Bexley, Kent.

Ziggy: One of the best places to look for clip art packages is in the public domain. Carl Surrey's newsletter, for example, features a close look on how to get hold of some good examples, so why not give him a try at the address given in his letter above.

Epson blues

I have recently obtained an Epson RX-80 printer second hand, but unfortunately the manual didn't come with it. I tried contacting Epson and they suggested getting in touch with their parts supplier Unicomp.

However, all they could offer me was an RX operating manual for about £20. Is there anyone out there who perhaps has an RX-80 and could provide me with a suitable manual explaining the DIP settings and control codes for a more reasonable sum?

Gary Barnes, 43 Swincombe Rise, West End, Southampton, SO3 3NL

Ziggy: I'm sure somebody out there has the wherewithal to make your day.

Print-out

I am writing to ask if you could print a mention about our fanzine, Print-Out.

The fanzine is bi-monthly and is aimed at the serious user, containing sections on machine code, BASIC, public domain, homebrew software, CP/M, news, advice and lots more.

The magazine costs £1.10 including postage and packing for 40 packed A4 pages, and I am hoping that you could give us a mention as gaining publicity is not an easy thing to do.

Thomas Defoe, Print-Out, 8 Maze Green Road, Bishop's Stortford, Hertfordshire, CM23 2PJ

Ziggy: No sooner said than done, Thomas.

ACU for sale!

Thank you for your magazine which I have enjoyed reading. I have quite a large number of back issues which are gathering dust on my shelf and wonder if any of your readers could put them to better use. I would be ready to part with them for a modest sum, so if you know of any interested readers eager to acquire old copies, the numbers I have are: June '85, and April '86 to July '87.

Edward Peters, 69 Victoria Road, Oxford, OX2 7QG

Ziggy: Come on CPC fans, don't miss this golden opportunity to pick up some old issues of your favourite mag!

Wordy request

I have a CPC 464 and my five year old son uses it mostly to play games on, as I know very little about computers. Due to my typewriter needing to be replaced, I am considering getting a printer instead, but can you help me with the following?

1. Is it possible to use a printer without having to have very much computer knowledge?
2. Can I use the computer like a typewriter, and then get it printed out?
3. Is it possible to use my own letter headed paper in a printer?
4. Can I get a relatively cheap printer, until I have learnt enough about it to get more expensive and better quality equipment?
5. Do I need to purchase anything other than the printer for it to work with my computer?

A highly confused reader from Stamford, Lincolnshire.

Ziggy: Well highly confused reader, let's sort out your problems one by one.
1. Yes, as long as you buy an Epson compatible printer.
2. Yes, as long as you buy a word processor to go with it like Brunword or Protext, which your local computer shop should stock.
3. Yes, the easiest way is just to position the paper to allow for it.
4. Yes, the Star LC10 retails at around £150 and isn't a bad one to start with.
5. Yes, you'll need a CPC 464 compatible printer cable, which you should be able to pick up fairly easily when you buy the printer. OK? I think that settles that.

Jamming!

I have a DMP 2000 printer, but every time I use it the head jams. I have oiled everything that the head moves on, but it still won't budge. Why?

James Bellamy, Newport, IOW.

Ziggy: Somewhere, lurking around in your printer, you will find a head adjustment lever. Where exactly will be printed in the manual. Give it a twist and you should see some results.

DATEL ELECTRONICS



64K AND 256K MEMORY EXPANSION

- Simple plug in memory expansion gives instant extra memory.
- Features bank switching software for easy use by the programmer or for use as a data storage area.
- The software also features some extra BASIC commands.
- 64K unit expands 464 to 128K. The 256K unit takes your 6128 to a massive 320K!!
- 64K unit brings 464 up to CPC 6128 memory configuration making a much larger software base available. Will work straight off with many programs designed for this unit (including OCP Art Studio - see Ad.).
- Ideal for use with the CPM 2.2 etc.
- All bank switching done automatically by supplied software (cassette 464 - disk 6128).

THE TOTAL SOLUTION TO YOUR MEMORY EXPANSION NEEDS!!

ONLY £49.99
64K FOR 464
ONLY £99.99
256K FOR 464 OR 6128 (PLEASE STATE)

RAM music machine



The RAM Music Machine is probably the most exciting music add-on available for any computer.

- It's a full sound sampling system allowing any sound to be recorded digitally into computer RAM. Once stored the sound can be replayed at different pitches with many varying effects.
- It's an echo chamber & digital delay line.
- Various sampled sounds are provided to get you going.
- The Music Machine can be used as a drum machine - eight drum sounds are provided, but you can easily produce more of your own.
- The powerful software allows you to compose tunes from individual bars of music. You can edit on screen & Save/Load sounds, instruments & rhythms.
- The Ram Music Machine supports full MIDI In, MIDI Out & MIDI Thru.
- Output through your Hi-Fi or Headphones. Comes complete with Microphone.
- Use a full size MIDI keyboard to play the Music Machine.
- Sounds produced by the Music Machine can be mixed with a MIDI Synthesiser's own sounds.
- On screen Sound Editor can produce MIDI data from your own compositions.
- No other product can offer so much in one unit - it's the total solution!!

ONLY £49.99 (Cassette)
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SPEECH SYNTHESISER & STEREO SOUND BOOSTER



dk'tronics

- This easy to use Speech Synthesiser includes a powerful Stereo Amplifier and two Pod Speakers which are an enormous improvement on the sound supplied by the internal mono speaker.
- Speech output is monorial but directed to both speakers. Booster gives stereo to computer internal sound output.
- Using the SPO/256 Speech Chip the unit has an almost infinite vocabulary.
- Text to speech software is provided in ROM to make speech output simplicity itself.
- Voicing is transparent to the user and the computer can carry on with other program tasks.

ONLY £29.99
464 or 6128 (Please state which)



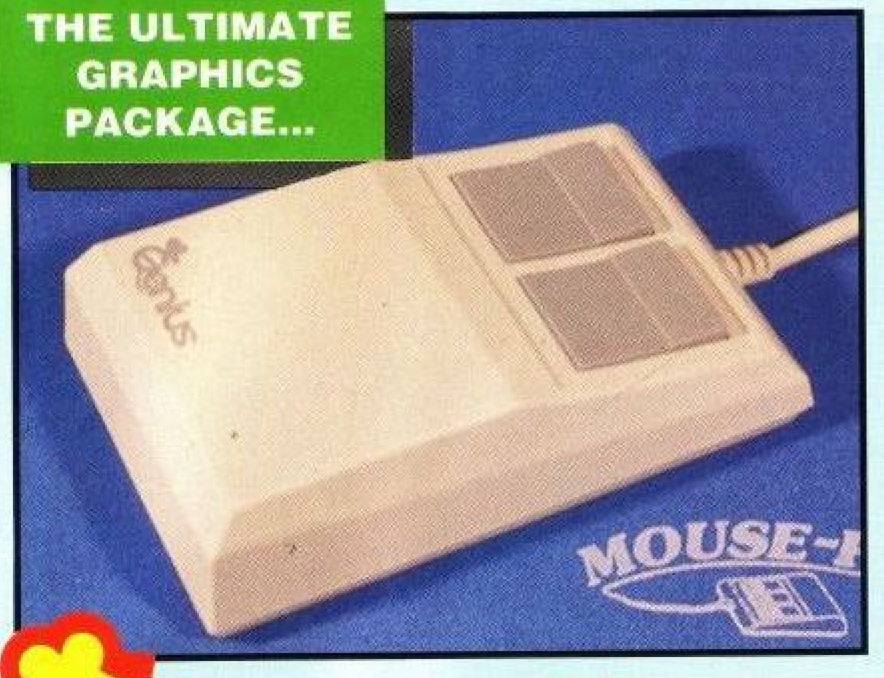
LIGHTPEN/GRAPHICS SYSTEM

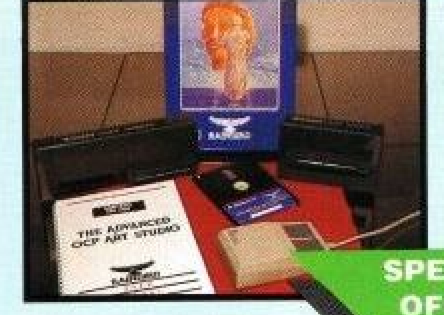
- Complete Lightpen and graphics system lets you create a whole range of effects on screen.
- It can magnify, shrink, colour fill and create circles, rectangles, lines and curves.
- Pictures can be edited at pixel level using a scratch pad which is magnified to full screen.
- Picture storage and retrieval, and a pen calibration feature.
- Printer dump utilities for Epson/Amstrad printers supplied (on cassette).
- Complete package - no more to buy.

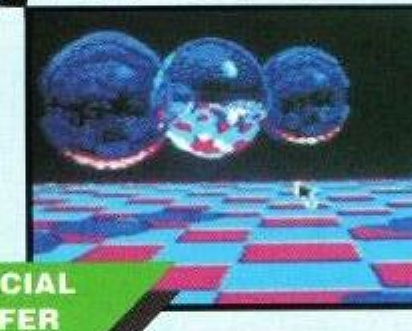
ONLY £14.99 CASSETTE
OR £24.99 WITH SOFTWARE ON ROM - NOTHING TO LOAD
464 or 6128 (Please state which)

DATEL ELECTRONICS

THE ULTIMATE GRAPHICS PACKAGE...







SPECIAL OFFER PACK!





Genius Mouse

COMPLETE WITH

OCP ADVANCED ART STUDIO™

- Genius Mouse is a high resolution two button mouse featuring optical counting, teflon guides, microswitches, rubber coated ball and high quality interface.

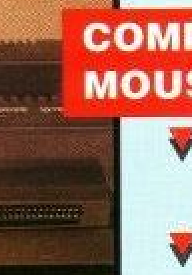
TAPE OR DISK FOR 464 OR 6128 (PLEASE STATE WHICH REQUIRED) N.B. 464 NEEDS DK' 64K RAM PACK

ONLY £49.99

TOTAL PACKAGE INCLUDES MOUSE, INTERFACE, ADVANCED ART STUDIO, MOUSE MAT AND HOLDER

- When combined with OCP Advanced Art Studio this graphics package is quite simply the best system available. The features are unmatched...

- Create an image - shrink it, expand it, move it, rotate it, copy it, colour it etc., etc.
- Spray patterns or shades, make elastic lines - stretch and manipulate shapes.
- Zoom in to add detail in fine mode.
- Pulldown/Icon driven menus for ease of use.
- Mouse operation, plus joystick and keyboard control.
- 16 pens, 8 sprays, 16 brushes - so flexible anyone can create superb graphics easily.
- Full cut and paste facilities plus excellent printer support.
- Pixel edit, font editor, flip, invert, rotate, solid or textured fill and professional manual make Advanced Art Studio simply the best graphics package.



COMPLETE WITH MOUSE INTERFACE

- The Genius Mouse Graphics System comes complete with the special Mouse Interface to allow super smooth control.
- Attractively styled to match your 464 or 6128 design and colour.
- Simply plugs into Expansion/ Joystick Port.

FREE!

MOUSE MAT AND MOUSE HOLDER (WORTH £12.99) WITH EACH PACKAGE

ONLY WHILE STOCKS LAST

A TOTAL GRAPHICS PACKAGE

SAVE OVER £25

- NO OTHER GRAPHICS PACKAGE CAN OFFER SO MUCH AT SUCH A PRICE!!
- OCP ADVANCED ART STUDIO ALONE NORMALLY RETAILS FOR £25.00. THE MOUSE SYSTEM HAS A NORMAL PRICE OF £39.99. NOW YOU CAN BUY BOTH FOR ONLY £49.99 AND GET A MOUSE MAT AND HOLDER (worth £12.99) ABSOLUTELY FREE.
- WE HAVE LIMITED NUMBERS OF THESE PACKS - SO BUY NOW!

WHAT THE MAGAZINES HAD TO SAY...

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C.T.W. "PICK OF THE WEEK"

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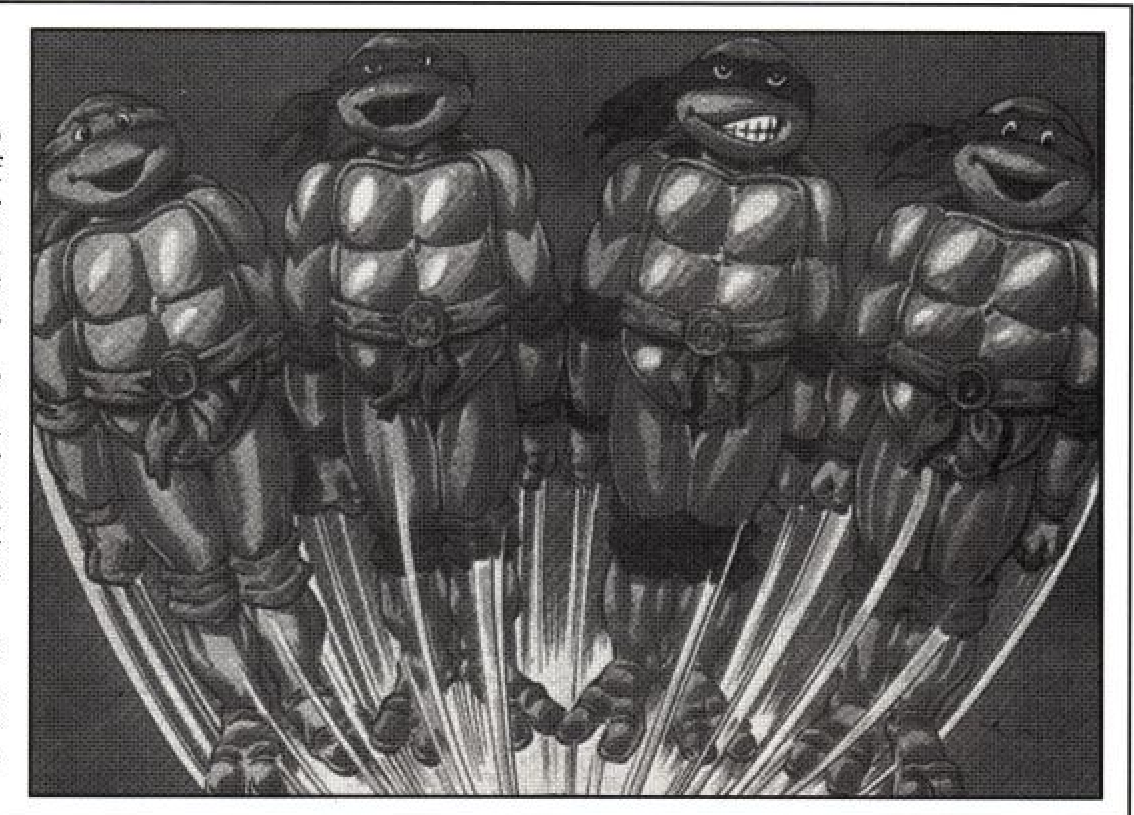
SALES ONLY	TECHNICAL ONLY
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Cowabunga!!

Look out, the Turtles are coming to town! Having successfully pulled off what must be the biggest licencing deal this year, Southwark based Mirrorsoft has pledged to get Teenage Mutant Hero Turtles out on the streets before Christmas.

Following the four reptilian heroes' quest to save April O'Neil from the evil Shredder, the game will see you kicking and blasting your way through six different New York settings, against some of the nastiest Ninjitsu warriors about. Sounds good to me.

If you're looking for that extra little stocking filler for the festive season, look no further than your local games dealer and make sure Turtles is on your list.





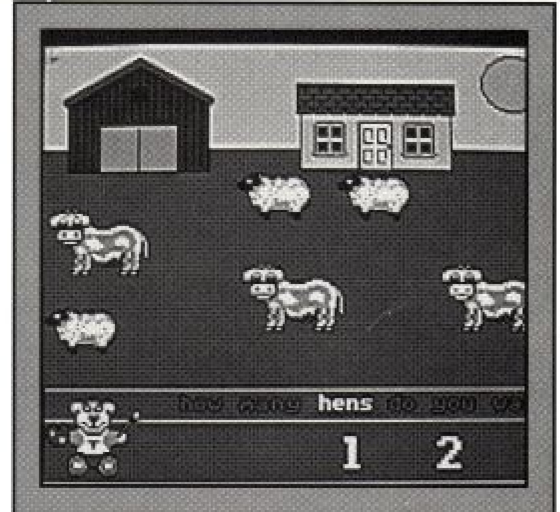
Open Sesame

Have y'ever been tae Aberdeen? If not, make a date to get up there as soon as possible to visit the new Star UK Computerworld store in Union Street.

Covering an incredible 15,000 square feet of floor space, the superstore boasts two separate floors catering for the home and leisure computer market, and business and office equipment.

As an appointed Amstrad dealer, you should be able to find exactly what you need to suit your requirements, but don't worry if you can't make it to Scotland. As Star UK's MD Gary Marshall says: "We shall shortly be announcing further stores for other population centres and are planning to develop the concept into a network of computer stores around the UK and into Europe."

Keep your eyes peeled



And a lot more

Following on from the huge success of Fun School 2, Database Software have come up with something that looks set to be equally as popular in Fun School 3.

Three suites of new programs cater for under fives, five to sevens and over sevens, featuring stunning new graphics and innovative interactive learning games allowing children to develop numeracy, word skills, comprehension and computer literacy.

As well as exciting games like Farm and Alphabet, the Database Teddies are also back in abundance, providing all-round learning support in line with the concepts of the National Curriculum.

Fun School 3 should be available towards the end of September, but if you want to book your copy early, call Database on 0625 859333.

Duck tales

Keep a look out for all of your favourite Disney characters following a licencing agreement between Titus and Nathan Software and Disney France.

Amongst the first batch of goodies to emerge from the deal will be Donald's Alphabet Chase, Duck Tales and the illustrious Dick Tracy, due for release to coincide with the new film starring Warren Beatty and Madonna.

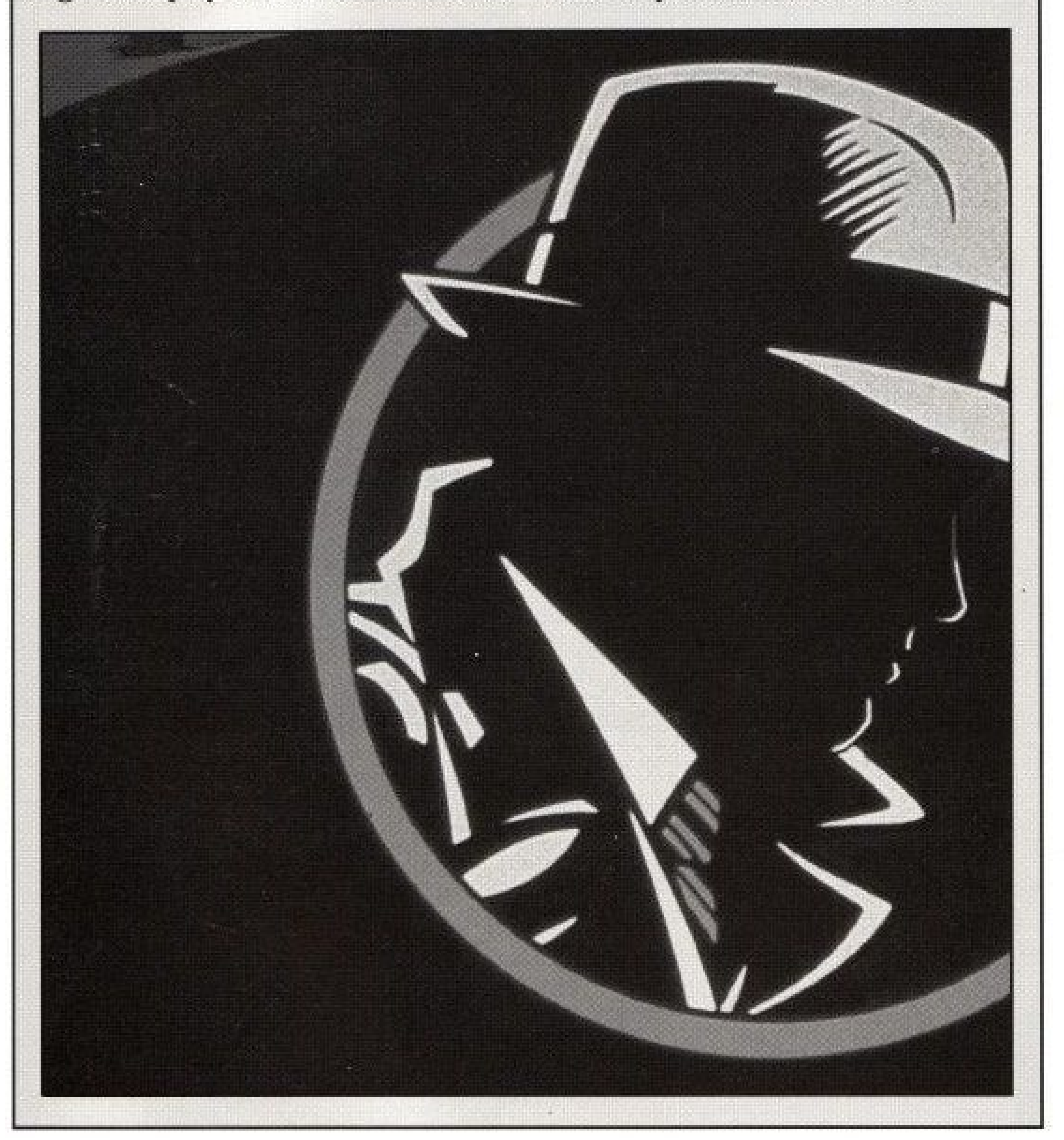
Running alongside its Disney successes, Titus has also announced a whole new idea in gameplaying-the Action Concept.

Based upon the existing Data Disk idea, with extra disks requiring the original to play from, the new Action disks give totally new characters, scenarios and even new scenery, using a unique computer language developed by Titus.

With full screen 3-D Isometric screen view, game characters are programmed with their own personalities, allowing them to fully interact with each new environment.

The System Disk contained in the first Concept package provides the special data required to run all of the subsequent Action Disks, the first of which will be Commando War, a two player combat blast.

With superbly realistic gameplay, Titus' Action Concept looks set to pave the way for a whole new style of shoot-em-ups. Make sure you get your copy when they hit the streets soon.





Amstrad expands

Coinciding with the release of the fab new CPC + range, Amstrad has announced the expansion of both its telemarketing and sales teams to keep dealers informed of the latest product developments and promotions and to provide software and peripheral support for the entire Amstrad range.

With sales of the new CPC+ machines expected to soar for the Christmas



market, the new sales representatives Jim Lindsay, who will be responsible for sales in the Greater London area, and Jim Whitton, who will be looking after Scotland and Northern Ireland, should both be in for a very busy time indeed.

A little learning

Those of you who took a fancy to our feature on educating with the CPC should take a look at the latest Educational Software Directory from Rickett Educational Media.

Featuring the best educational material from all of the popular software houses, the Directory lists over 300 programs across all computer formats, together with a unique price and quality guarantee.

If you want to know how to get hold of the know-how, the directory is available free of charge from Rickett on 0460 57152.

Football crazy

Here they are, the results of our fabulous World Cup football giveaway! In the July issue, we offered three football strips of your choice from the British Isles, and all you had to do was supply these three simple answers:

1. 1930
2. Brazil
3. Pickles

Who were the lucky winners? Well, the first three correct entries we drew out of our bulging postbag were from Darrell Wood of Walsall, who wanted the England strip, Tristan Knight of St. Austell, Cornwall, who wanted the same, and C.Marsh of Aberdeen, who plumped for the Scottish strip.

These lucky three will also receive super Sports Star models and fifteen copies of Virgin's World Cup megablast are also on their way to the runners up.

There you have it. Don't forget to keep your eyes peeled next month to see who's walked off with the chance of a lifetime gliding course, it might just be you.

Here's hoping!



Bond is back

007 is back on your screens in Domark's latest smash, The Spy Who Loved Me, and this time, he's out to smash the villainous Karl Stromberg who's made off with a couple of nuclear subs.

With the safety of the World at stake, your task is to jump into the famous amphibious Lotus Esprit and get blasting before the nuclear missiles land. Picking up the amorous Russian spy Amasova on the way, this new episode in the Bond series looks set to smash its way into the games charts when it comes out in September. Don't miss it!

That's entertainment

If you've already got something pencilled into your diary for September 15 and 16, forget it. Instead, get yourself down to Earl's Court in London for what promises to be the most important event of the games and leisure year – The Computer Entertainment Show.

With all of the major hardware and software companies in attendance, you should be able to catch sight of all of the latest innovations for 1990 and beyond for the first time, as well as a host of TV and sport celebrities who will be there campaigning for the childrens' charity Childline.

If that weren't enough, there is also live music and a chance for you to enter



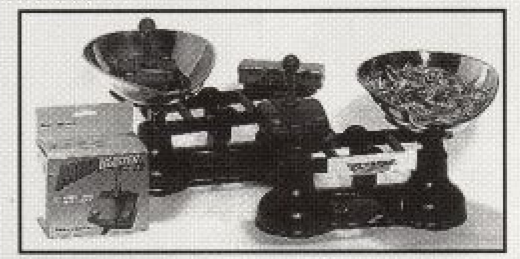
the prestigious International Computer Games Championships, along with spot prizes, raffles and show channels.

So, if you want to know what the likes of Ocean, US Gold, Activision, Domark, Mirrorsoft, Virgin, Microprose and many, many more are up to, get onto Dean Barrett at EMAP Images now on 071 251 6222 for more information.

Blast bargains

The Konix Megablaster is coming down in price from £6.99 to an incredible £4.99. What's more, you can also pick up the microswitch version for a mere £6.99, a reduction of over £2.

This late summer madness from Spectravideo means the Megablaster is one of the cheapest anywhere in the world, particularly in the Microswitch department. It could well be your best defence.









METEOR STORM II

BY DAVID HALL



Here's another classic from David Hall, this time featuring amazing parallax scrolling. Guide your green beastie through the onslaught of oncoming meteors. It may sound easy, but after the first few collisions, you'll need a large towel to mop up the steam coming out of your ears.

```
10 DATA 2121C422B0363E96320852AF320B5232204E211DC2220952217F3E06643600231OFBCD0D
29CD5E27CDF627CD5E27CD61282AB036CD29BC06067EFE002805 [CD]
FE20C407292310F33A204EFE00C018D421803E347EFE1A201E3600217E3E11030019AFBE20FB34ED
5F47AF3CFE2628FA10F923772336C8DD21813E3E09 [CD]
20 DATA 327F3EDD7E00FE00283A47FE193842FEDC2006DD360000182BFEC630480E18DD6E01DD66
02CDF928DD7501DD7402113829DD3400E506081A77132310FAE1 [82]
CDF9280D20F0DD23DD23DD233A7F3E3D20B0C921F9291108004FED5210FCEBDD6E01DD660218CC3E
DD904F18B421983A347EFE0620203600219 63A1103 [82]
30 DATA 00197EFE0020FA3601ED5F47AF3CFE2D30FA10F923772336C80624DD21993ADD7E00FE00
282DDD6602DD6E017EFE2020023600CDF928DD7402DD75017EFE [86]
0020023620DD3400DD7E00FEC52006DD3600003600110300DD1910C5C93E01CD1EBB204E3E4BCD1E
BB20473E4ACD1EBB20073E08CD1EBB28612AB0362B [86]
40 DATA 06127EFE882856FE202804FE002077CDF92810EE2AB0362B11F92922B0363E0732E828AF
32EF28CDE4283E0632E8283E1332EF28C92AB03611060019O612 [95]
7EFE88281AFE202804FE00203BCDF92810EE2AB0362311F82922B0362B18C111F9292AB0360E12E5
06061A77132310FA1313E1CDF9280D20EEC97CC608 [95]
50 DATA 67FEC0D0D51150C019D1C93E0232204EC9210852347EFE0CC036002A0952060636002310
FB2A0952CDF92822095221OB52347EFE80C03E0132204EC90000 [D5]
00000000000000000000000000000001030302000000010303030302000003122103030300 0003
302103030300010330210303030201123003030303 [D5]
60 DATA 8201122103030343020312210303030 3C303030303030343430303030303038 3C3030303
03030343C30303030303038 3C3030303030343 43C303030303 03 [26]
03C3C303030303034343C3010303030383C38201030343434 3C382010383838 3C3C382004343434 3
C3C30000C3C3C3C3C3C3000041C3C3C3C382000000 [26]
70 DATA 41C3C38200000054FC000000000000FCFCA800FCA8000030CC2054FCFC000030CC201064
9800001030001064980000003300003020000000332211330000 [FB]
0000111A8D2200000000F4E8D0F000000050F0F0F0F0A0000050FF3F30F0A00000F5BA251A70F00
000F5B0000A70F0000055B0000A70A0000055BA251 [FB]
80 l=10000:FOR m=1 TO 8:READ a$:FOR t=1 TO LEN(a$) STEP 2:POKE l,VAL("&"+MID$(a$
,t,2)):l=l+1:NEXT t,m:a$(1)="WELL DONE!":a$(2)="YOU  [A1]
FAILED":w(1)=20:z(1)=20:w(2)=250:z(2)=5:BORDER 0:INK 0,0:INK 5,15:INK 7,26,15:IN
K 8,18:INK 9,9:INK 12,9:INK 14,0,16:PAPER 0 [A1]
90 MODE 0:CLS:PEN 6:PRINT:PRINT TAB(15)"SPACE":PEN 10:PRINT TAB(16)"II":PEN 6:PR
INT TAB(14)"STORM":PLOT 0,2,3:DRAWR 360,0:DRAWR 0,39 [D7]
6:DRAWR -360,0:DRAWR 0,-396:FOR t=48 TO 302:PLOT 480,t,11:DRAWR 60,0:NEXT:PEN 5:
LOCATE 13,24:PRINT "DiStAnCe":INK 13,0,14 [D7]
100 INK 15,16,0:SPEED INK 40,220:CALL 10000:d=PEEK(20000):SPEED INK w(d),z(d):LO
CATE 2,11:PEN 7:PRINT CHR$(22);CHR$(1);a$(d);CHR$(22 [DD]
);CHR$(0):WHILE INKEY$<>" ":WEND:GOTO 90:DATA A70A0000000FF3F30F00000000 8A0F0F45
000000EF2A000015DF0000 [DD]
```

LOVE ME TENDER

BY CHRIS BRADSHAW

Ah, sweet music. Elvis fans will love this little sound demo featuring the lyrics and melody of his famous ballad. Just run the program, sit back and get taken in by the romance of it all. Yuk, sounds a bit slushy to me.



```
1 CLS:MODE 1:'love me tender
2 INK 0,10:PEN 6:BORDER 6,9
3 PRINT:PRINT:PRINT"    Love me ten - der,love me sweet,":PRINT:PRINT"
 Nev - er let me go.":PRINT:PRINT"   You have made m
y life com - plete,":PRINT:PRINT"            And i love you so."
4 PRINT:PRINT"    Love me ten - der,love me true,":PRINT:PRINT"       All my dre
ams full - fil.":PRINT:PRINT"   For,my dar - lin, I
love you,":PRINT:PRINT"        And I al - ways will."
10 FOR n=1 TO 61:READ s:SOUND 1,s,40,5:NEXT n
20 DATA 319,239,253,239,213,284,213,213,239,253,284,253,239,239,239,239
30 DATA 319,239,253,239,213,284,213,213,239,253,284,253,239,239,239,239
40 DATA 190,190,190,190,190,190,190,190,190,213,239,213,190,190,190,190
50 DATA 190,179,190,213,284,213,213,239,253,190,213,239,239,239,239
60 PRINT:PRINT:PRINT:INPUT"PRESS ENTER TO HEAR IT AGAIN";AGAIN$:RUN
```



QUADRATICS

BY CHRIS WOOTTON

Here's something for all you mathematicians out there. It's a little quadratic equation solver in the form of $ax^2+bx+c=0$. Run the program, type in the relevant values for a, b and c, and information for the solution will be displayed. Elementary, what?

```
1 'Quadratic Equation Solver [71]
2 'by Chris Wootton [72]
3 ' [73]
10 MODE 1:PRINT"Quadratic Equation Solver":PRINT:x$=CHR$(188) [30]
20 SYMBOL AFTER 256:SYMBOL AFTER 64:SYMBOL 64,24,36,8,16,60 [CC]
30 PRINT"The Equation form is a"x$"@+b"x$"+c = 0" [2A]
40 WHILE (1=1) [AC]
50   PRINT:PRINT:INPUT"Enter a,b,c: ",aa,bb,cc [15]
60   discrim=bb*bb-4*aa*cc:sols=-(discrim=0)-2*(discrim>0) [B7]
70   PRINT:PRINT"Number of Solutions =";sols:PRINT:PRINT"Solution(s): "; [A9]
80   IF sols=2 THEN PRINT" x="(-bb+SQR(discrim))/(2*aa);:sols=1 [B6]
90   IF sols=1 THEN PRINT" x="(-bb-SQR(discrim))/(2*aa) [34]
100 WEND [94]
```

NAMER

BY RICHARD OSBORNE

Guaranteed to break the ice at parties. Input a name of a friend and their age, and you'll see a large cursor generated image of that name in mode 2. Watch as it scrolls across the screen and use the space bar to restart. It should go down well at family gatherings.

```
10 REM NAMER By Richard Osborne    for ACU
20 REM 464/664/6128
30 REM
40 b=46:MODE 2:INK 1,0:BORDER 0:INK 0,0:OUT &BC00,2:OUT &BD00,b:FOR a=1 TO 10:NE
XT
50 INK 1,26:PEN 1:PAPER 0:CLEAR INPUT:PRINT"NAME: ":WINDOW 7,17,1,1:LINE INPUT""
,a$:IF LEN(a$)>10 OR LEN(a$)<2 THEN RUN ELSE MODE 2:CLEAR INPUT:PRINT"AGE: ":WIN
DOW 6,9,1,1:INPUT"",d:IF d>100 OR d<2 THEN RUN ELSE d=d/3.84615385
60 INK 1,0:c=LEN(a$):e=c*25.5:f=d*9.80769231:SYMBOL 255,e,f,e,f,e,f,e,f:MODE 2:L
OCATE 1,25:PRINT a$:c=c-1:ORIGIN 0,0:FOR a=0 TO c*16:FOR b=0 TO 16:IF TEST(a,b)=
1 THEN LOCATE a+1,((25-b)/1.5)+2:PRINT CHR$(255);
70 NEXT:NEXT:g=(c+1)*31.9:FOR a=1 TO g*2 STEP 2:ORIGIN a,75:DRAW 0,250:NEXT:LOCA
TE 1,25:PRINT SPACE$(10):IF (c*2.6)>26-(c*2.6) THEN x=26-(c*2.6)+1:INK 0,c*2.6:B
ORDER c*2.6:INK 1,x ELSE INK 0,c*2.6:BORDER c*2.6:INK 1,26-c*2.6
80 CLEAR INPUT:FOR b=63 TO 0 STEP -1:IF INKEY(47)=0 THEN RUN ELSE CALL &BD19:OUT
 &BC00,2:OUT &BD00,b:NEXT:IF INKEY(47)=0 THEN RUN ELSE 80
```

GEOG TEST

BY MATTHEW PINDER

Put your thinking caps on and prepare for some devilish questions to stretch your knowledge of the world's capitals. Get the question right and you get the jolly tune. If not, ooh, that sounds bad. Scores are kept at the bottom, so challenge a friend and see who knows what.

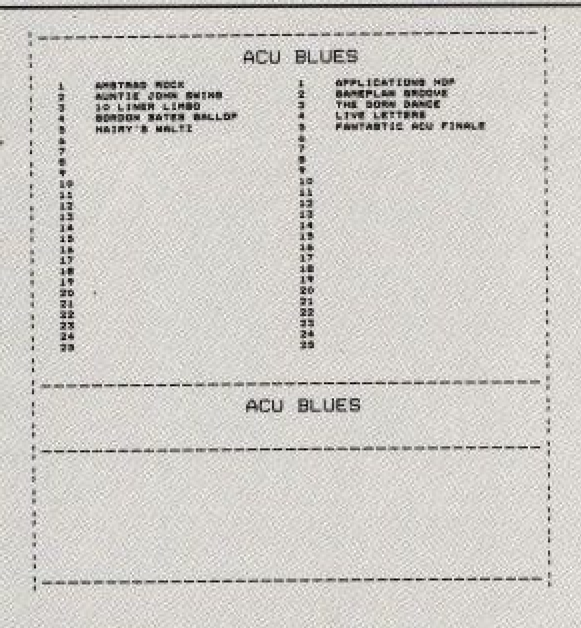
```
10 DEFSTR a-c:DIM a(24),b(24):FOR z=1 TO 24:READ a(z):NEXT:FOR z=1 TO 24:READ b(
z):NEXT
20 MODE 1:LOCATE 14,1:PRINT"Geography Test":LOCATE 14,2:PRINT"==============":x=
INT(RND*2)+1:v=INT(RND*24)+1:LOCATE 1,25:PRINT"Score:-  Correct";sc1;"   Wrong";
sc2:LOCATE 1,12
30 IF x=1 THEN PRINT"What is the capital city of ";a(v);"?":LOCATE 1,21:INPUT"An
swer is";c:IF UPPER$(c)=UPPER$(b(v)) THEN GOTO 50 ELSE GOTO 60
40 IF x=2 THEN PRINT b(v);" is the capital of...?":LOCATE 1,21:INPUT"Answer is";
c:IF UPPER$(c)=UPPER$(a(v)) THEN GOTO 50 ELSE GOTO 70
50 LOCATE 1,21:PRINT"Correct - Well done     ":FOR z=500 TO 1 STEP -10:SOUND 1,z
,7,15,1:NEXT:sc1=sc1+1:GOTO 80
60 LOCATE 1,21:PRINT"Wrong - The capital city was ";b(v):FOR z=1 TO 740 STEP 20:
SOUND 1,z,7,15,1:NEXT:sc2=sc2+1:GOTO 80
70 LOCATE 1,21:PRINT"Wrong - The country was ";a(v):FOR z=1 TO 740 STEP 20:SOUND
 1,z,7,15,1:NEXT:sc2=sc2+1:GOTO 80
80 FOR z=1 TO 2750:NEXT:GOTO 20
90 DATA "China","Egypt","France","Greece","Ireland","Italy","Japan","Spain","Eng
land","Norway","Belgium","Brazil","Canada","Cuba","Austrailia","Iran","Israel","
Iraq","Lebanon","USSR","Sweden","Panama","Austria","Switzerland"
100 DATA "Peking","Cairo","Paris","Athens","Dublin","Rome","Tokyo","Madrid","Lon
don","Oslo","Brussels","Brasilia","Ottawa","Havana","Canberra","Tehran","Jerusal
em","Baghdad","Beirut","Moscow","Stockholm","Panama","Vienna","Bern"
```

CASSETTE

BY J R KENWORTHY

This month's star 10-liner is a must for those of you who have so many tapes lying around you've forgotten what you put on them. Just follow the on screen instructions and you've got an instant sleeve to tell you exactly where your fave blasts are. As you can see, the ACU team have already got theirs sorted.






```
110 DIM a$(2,100):MODE 1:LINE INPUT "CASSETTE TITLE : ",TT$:FOR side =1 TO 2:WIN
DOW 1,40,1,25:CLS:PRINT"side =";side;": options ";:IF side=1 THEN PRINT"'SIDE 2'
 and 'END'" ELSE PRINT"'END'"
120 WINDOW 1,40,2,25:PRINT:FOR T=1 TO 25:PRINT T;:LINE INPUT "",A$:A$=UPPER$(A$)
:IF A$="END" THEN 130 ELSE IF A$="SIDE 2" AND side=1 THEN 130 ELSE A$(side,T)=A$
:A$="":NEXT
130 CLS:NEXT side:MODE 1:PRINT"PRINTING.....please wait":PRINT:PRINT:KEY DEF 68,
1,159:KEY 159,"goto 140"+CHR$(13)
140 PRINT#8,CHR$(27);"@";:ln$="|"+STRING$(39,"-")+"|":bl$="|"+STRING$(39," ")+"|
":PRINT#8,ln$:b$=SPACE$(20-LEN(tt$)/2)+tt$+SPACE$(22):b$=LEFT$(b$,39)
150 PRINT#8,"|";b$;"|":FOR t=1 TO 14:PRINT#8,bl$:NEXT:PRINT#8,ln$:PRINT#8,"|";b$
;"|":PRINT#8,bl$:PRINT#8,ln$:FOR t=1 TO 5:PRINT#8,bl$:NEXT
160 PRINT#8,ln$:SIDE=1:FOR t=1 TO 10:PRINT#8,CHR$(27);"j";CHR$(216);:NEXT:PRINT
#8,CHR$(27);"@";CHR$(27);"1";CHR$(2);:PRINT #8,CHR$(15);CHR$(27);"S";CHR$(1);CHR
$(27);"A";CHR$(6);
170 PRINT#8,CHR$(27);"D";CHR$(6);CHR$(32);CHR$(38);CHR$(0)
180 FOR t=1 TO 25:PRINT#8,t;CHR$(9);LEFT$(a$(1,t),25);CHR$(9);t;CHR$(9);LEFT$(a$
(2,t),25)
190 NEXT:PRINT"ALLOW THE PRINTER TO FINISH":PRINT"IF A DUPLICATE IS REQUIRED, TH
EN RESET  THE PAPER AND PRESS <TAB> KEY."
```

CONNECT 4

BY DAVID HALL

This classic game has been converted onto your screens by Mr. Hall. Remember Connect 4, where you had to drop your counters into the grid to make that all important row or column? Well, here it is bright and bold. Take it in turns to select a column, and beware of your opponent's anger when you keep beating him.

```
1 y=30000:FOR m=1 TO 7:READ a$:FOR t=1 TO LEN(a$) STEP 2:POKE y,VAL("&"+MID$(a$,
t,2)):y=y+1:NEXT t,m:MODE 0:x=22:y=0:c=6:GOSUB 3:x=4 [60]
28:c=3:GOSUB 3:x=14:y=4:c=10:GOSUB 3:x=420:c=11:GOSUB 3:FOR t=1 TO 8:PLOT t*72-6
,68,8:DRAWR 0,f:MOVER 2,0:DRAWR 0,-f:NEXT [60]
2 FOR t=1 TO 6:PLOT 66,16+t*48:DRAWR 508,0:MOVER 0,2:DRAWR -508,0:NEXT:TAG:FOR t
=1 TO 7:PLOT t*72-16,380:PRINT t;:NEXT:TAGOFF:CALL w [D7]
:LOCATE 3,2:b=PEEK(h):PRINT t$:IF b<3 THEN LOCATE -10+b*13,24:PEN 9+b:PRINT "WON
":RUN ELSE PRINT TAB(9)"DRAW":POKE h,1:RUN [D7]
3 f=282:w=30000:BORDER 0:INK 4,7:INK 9,4:INK 2,14:INK 0,0:INK 5,16:PLOT x,y,c:FO
R t=1 TO 2:DRAWR 0,36:DRAWR 200,0:DRAWR 0,-36:DRAWR  [5F]
-200,0:MOVER -4,2:NEXT:LOCATE 2,23:PEN 2:PRINT "Blue":t$="+  GAME  OVER  +":LOCA
TE 16,23:PEN 5:PRINT "Red":h=30479:RETURN [5F]
4 DATA AF325946210102225A46063521394A36002310FB3A0F77FE012813CD2876CD8675CD4476F
E04C8CD7B75FE2A2817CD3676CD8675DD215B46CD4876FE04C8C [8B]
D7B75FE2A20CF3E03320F77C921394A0607AF862310FCC93A0F77EE03320F77CD1BBB38FBCD18BBF
E3138F4FE3830F032404A4F264AC6086F7E3CFE07 [8B]
5 DATA 28E177326F4A210A4A06000911070019 3D20FC3A0F77772100C03A404AD630010900093D2
0FC3A6F4AEE0747AFC61810FC471122773A0F77FE02200311D27 [6B]
7C5CD10760E3206500010FD0D20F8CD1076CD26BCC110E9CD1076211077CDAABC211977C3AABCD5E
50E16E506081AAE77132310F9E1CD26BC0D20EFE1 [6B]
6 DATA D1C9011010CD3F76010E1A3E0AC332BC010E0ECD317601101A3E0BC332BCDD215A4621424
A0E061E0006077EDDBE0028041E0018011C3E04BBC82310EE0D2 [FD]
0E721424A0E07225046 1E0006067EDDBE0028041E0018011C3E04BBC8C501070009C110E92A50462
30D20DB21454A3E03325246225746 0E0422504606 [FD]
7 DATA 041E007EDDBE0028041E0018011C3E04BBC8C501060009C110E92A5046230D20DB3A52462
A57461107001 93D20C621424A3E0332524622574 60E042250460 [09]
6041E007EDDBE0028041E0018011C3E04BBC8C501080009C110E92A5046230D20DB3A52462A57461
10700193D20C6C9020100001E00000F0A00020000 [09]
8 DATA 2000000F0A000000040C3C2800000000 40C0C3C3C2800000C0C0C3C3C3C00000C0C3C0C3C3
C00040C3C3C0C0C3C28041C3C3C0C0C1C28041C3C3C0C0C1C280 [8C]
C3C3C3C0C0C0C3C0C3C3C3C0C0C0C3C0C3C3C3C0C0C0C3C0C3C3C2C2C0C0C3C3C0C0C1C1C3C3C0C3
C0C0C0C3C3C3C0C3C0C0C0C3C3C3C0C3C0C0C0C3C [8C]
9 DATA 3C3C0C142C0C0C3C3C2C08142C0C0C3C3C2C08143C0C0C3C3C0C08003C3C0C3C0C0C00003
C3C3C0C0C0C0000143C3C0C0C08000000143C0C080000000050F [1E]
0CC880000050F0F0CCCC880000F0F0F0CCCCCC0000F0F0CCF0CCCC0050F0CCCCF0F0CC8850E4CCC
CF0F0E48850E4CCCCF0F0E488F0CCCCCCF0F0F0CC [1E]
10 DATA F0CCCCCCF0F0F0CCF0CCCCCCF0F0F0CCF0CCCCD8D8F0F0CCCCF0F0E4E4CCCCF0CCF0F0F0
CCCCCCF0CCF0F0F0CCCCCCCF0CCF0F0F0CCCCCCCF044D8F0F0CCCC [24]
D8A044D8F0F0CCCCD8A044CCF0F0CCCCF0A000CCCCF0CCF0F00000CCCCCCF0F0F0000044CCCCF0F0
A000000044CCF0A0000000 [24]
```

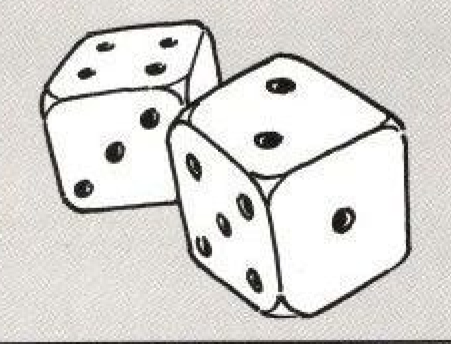
STARSCROLL

BY CHRIS WOOTTON

Here's a short graphics demo of vertical scrolling for your delectation. As the spaceship zig-zags its way towards its unknown destination, watch the multi-colour starfield scrolling smoothly in the opposite direction.

```
1 'StarScroll Demo [71]
2 '(C) Chris Wootton, 1990 [72]
3 ' [73]
10 MODE 0:INK 0,0:INK 1,26:INK 2,26:INK 3,13:INK 4,6:BORDER 0:xp=18:xd=-1 [88]
20 SYMBOL AFTER 256:SYMBOL AFTER 240:SYMBOL 240,1,1,65,67,71,127,67,1 [37]
30 SYMBOL 241,128,128,130,194,226,254,194,128:s$=CHR$(240)+CHR$(241):PEN 4 [F6]
40 ' [F4]
50 WHILE (1=1) [AD]
60    xp=xp+xd:xd=xd*(1+2*(xp=2 OR xp=18)):PLOT RND*638,398,INT(RND*3)+1 [5B]
70    LOCATE 1,1:PRINT CHR$(11)CHR$(11):LOCATE xp,25:CALL &BD19:PRINT s$ [E9]
80 WEND [1D]
```

DICE



BY V.J. WILLMORE

This neat little 10-liner not only throws an imaginery dice a random number of times, but it also gives a bar chart reading of how often each face turned up, and a total along the top of the screen. Run it and wait for the results of this clever random number checker.

```
10 MODE 1:BORDER 1:PAPER 0:INK 0,13:INK 1,26:INK 2,0:INK 3,11:d=10:e=10:f=10:g=1
0:h=10:i=10
20 FOR j=0 TO INT(RND*100)+1:o=INT(6*RND(1))+1:LOCATE 20,24:PRINT"DICE NO:=";o
30 IF o=1 THEN 40 ELSE IF o=2 THEN 50 ELSE IF o=3 THEN 60 ELSE IF o=4 THEN 70 EL
SE IF o=5 THEN 80 ELSE IF o=6 THEN 90
40 GRAPHIGS PEN 1:INK 1,26:x=n:n=20:PLOT n,d:DRAW n+10,d:d=d+4:SOUND 1,g+g,2,15:
SOUND 1,h+h/2,2,15:GOTO 100
50 GRAPHICS PEN 2:INK 2,0:x=n:n=60:PLOT n,e:DRAW n+10,e:e=e+4:SOUND 1,d+d/2,2,15
:GOTO 100
60 GRAPHICS PEN 3:x=n:n=100:PLOT n,f:DRAW n+10,f:f=f+4:SOUND 1,f++f+f,2,15:GOTO 1
00
70 GRAPHICS PEN 1:INK 1,26:x=n:n=140:PLOT n,g:DRAW n+10,g:g=g+4:SOUND 1,i*g/d,2,
15:GOTO 100
80 GRAPHICS PEN 2:INK 2,0:x=n:n=180:PLOT n,h:DRAW n+10,h:h=h+4:SOUND 1,j,2,15:GO
TO 100
90 GRAPHICS PEN 3:x=n:n=220:PLOT n,i:DRAW n+10,i:i=i+4:SOUND 1,h+h/2,2,15:GOTO 1
00
100 k=(d+e+f+g+h+i):PEN 1:NEXT:BORDER 16:LOCATE 1,3:PRINT;d;e;f;g;h;i;"="k;:LOCA
TE 5,2:PRINT "DICE THROWS FINISHED":FOR z=15 TO 1 ST
EP -5:SOUND 1,d,g,z:NEXT:PEN 2:LOCATE 1,5:PRINT"    FOR ANOTHER THROW PRESS ANY
KEY":CALL &BB18:GOTO 10
```

CPC TRAP

BY RAKESH BORHARA

Here's a two player game reminiscent of Raster Runner which will have you and a friend chasing each other around the square in a desperate bid to avoid collisons. Whoever stays alive the longest wins.

The red line is controlled by the joystick, so whoever is niftiest with the keyboard should take green. The moves are: \=right, /=left, .=down and L=up. Get chasing.

```
10 REM Trap By Rakesh Borhara
20 SPEED KEY 30,2:DEFINT a-z:MODE 1:INK 0,0:INK 1,26:INK 2,18:BORDER 0:INK 3,6:E
NV 1,11,-1,25:ENT 1,9,49,5,9,-10,15:CLS:PEN 1:LOCATE
 6,13:INPUT"Size of Board (100 - 250)";b:IF b<100 THEN b=100 ELSE IF b>250 THEN
b=250
30 b=b/2:MODE 0:MOVE 320-b,200-b:DRAW 320-b,200+b,1:DRAW (320+b)-1,200+b:DRAW (3
20+b)-1,200-b:DRAW 320-b,200-b:p1x=320+(b-25):p1y=20
0+(b-25):p2x=320-(b-25):p2y=200-(b-25):p1xm=0:p1ym=-2:p2xm=0:p2ym=2:p1h=0:p2h=0:
p1=3:p2=2
40 SPEED KEY 1,1:WHILE p1h=0 AND p2h=0:i$=UPPER$(INKEY$):IF i$=CHR$(11) THEN p1x
m=0:p1ym=2 ELSE IF i$=CHR$(10) THEN p1xm=0:p1ym=-2 E
LSE IF i$=CHR$(8) THEN p1xm=-4:p1ym=0 ELSE IF i$=CHR$(9) THEN p1xm=4:p1ym=0
50 p1x=p1x+p1xm:p1y=p1y+p1ym:c=TEST(p1x,p1y):IF c=2 OR c=1 THEN p1h=1:GOTO 80:EL
SE PLOT p1x,p1y,p1:SOUND 1,MIN(p1x,p1y),0.5
60 IF i$="L" THEN p2xm=0:p2ym=2 ELSE IF i$="." THEN p2xm=0:p2ym=-2 ELSE IF i$="/
" THEN p2xm=-4:p2ym=0 ELSE IF i$="\" THEN p2xm=4:p2y
m=0
70 p2x=p2x+p2xm:p2y=p2y+p2ym:c=TEST(p2x,p2y):IF c=3 OR c=1 THEN p2h=1:GOTO 90:EL
SE PLOT p2x,p2y,p2:SOUND 3,MIN(p2x,p2y),0.5:WEND
80 PEN 2:LOCATE 2,1:PRINT"GREEN PLAYER WINS":GOTO 100
90 PEN 3:LOCATE 3,1:PRINT"RED PLAYER WINS"
100 SOUND 130,145,255,0,1,1,12:LOCATE 1,25:PEN 7:PRINT"ENTER TO PLAY AGAIN.";:CA
LL &BB03:WHILE INKEY$<>CHR$(13):WEND:RUN
```



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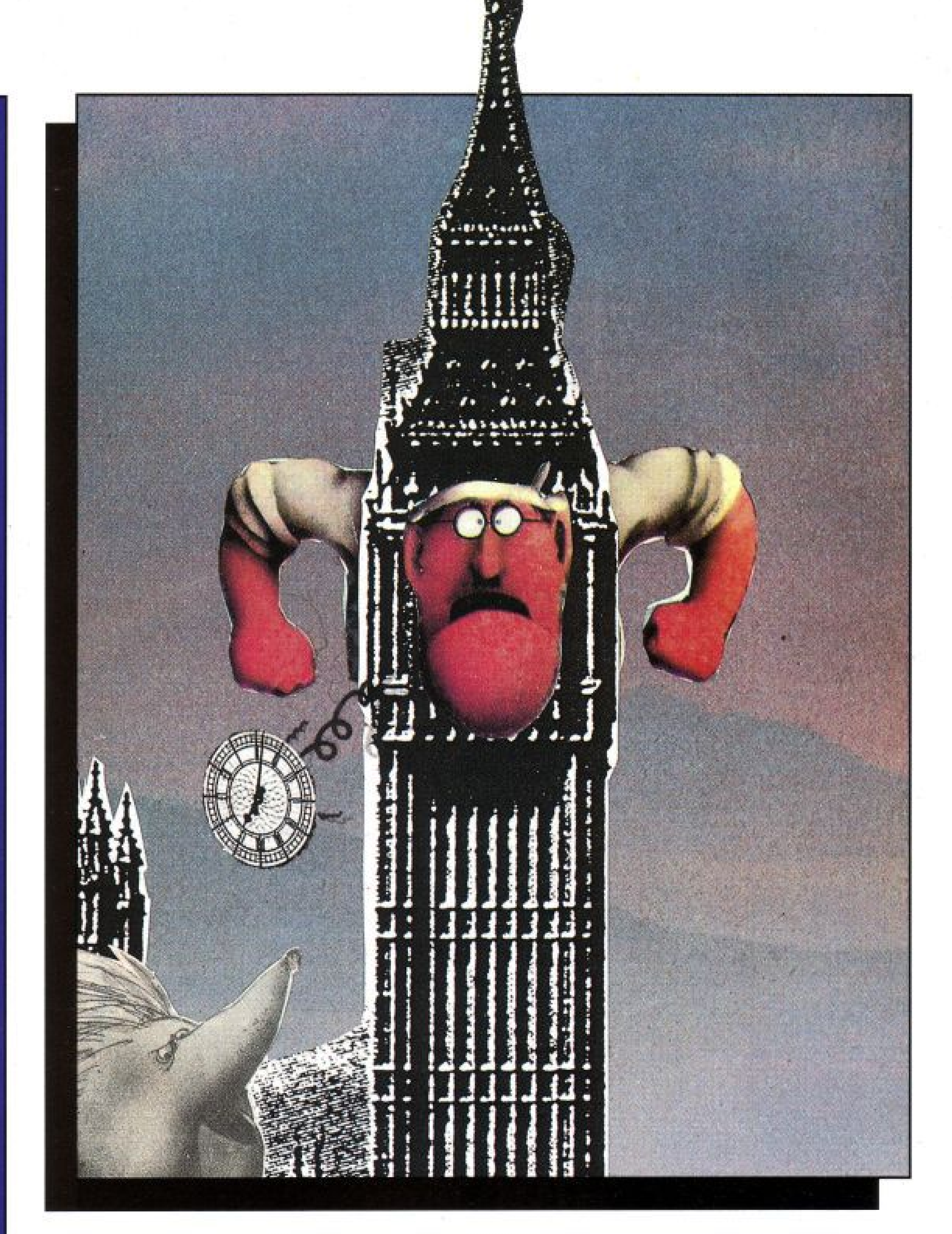
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ACU,
MSM Ltd.,
116-120 Goswell Road,
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BrunWord

Complete Word Processing Package £30

BrunWord 6128 is a complete word processing package consisting of a word processor, a spelling checker and a card filing programme. BrunWord 6128 out performs all other word processors for the CPC6128.

BrunWord uses its own high speed screen routine, giving it a very fast screen response and allowing the use of 40, 80 or 128 characters across the screen. The editor features are logically arranged so that the new comer is quickly able to grasp the essentials.

The integrated spelling checker of BrunWord 6128 and its 30,000 word dictionary load at the same time as the main programme. We invented a special system to compact the dictionary so much that each word is represented by just one and a half characters. With such a compact dictionary, we are able to store this in the banked memory, making access very convenient and exceptionally fast.

All other word processors need to access the disc to test the spelling. (ROM versions have the dictionary on disc). This is very slow and can involve many disc changes.

BrunWord has a 40 page manual which includes step by step instructions to produce and print a simple letter. But your very first step is to load the TUTOR file into BrunWord. This takes even the complete novice straight into word processing and demonstrates the powerful editing and formatting features of BrunWord. There are also examples of printer control, showing how to create headings, to underline or to emphasise, and five deliberate spelling errors for you to correct. The tutor takes about 20 minutes to run through.

BrunWord Features

*40, 80 or 128 column display. *Touch typing speed over 200 words/min. *True insert or overwrite. *Justify or unjustify paragraph or whole text. *Justified text has balanced appearance. *Instant word wrap. *Block save, move, copy, insert and delete. *Local editing with word delete/undelete. *Adjustable margins and TABs. *Column/Line/Page display with file name. *True word count. *Find and replace. *Help menus. *Memory filing system. *Single character embedded printer commands (18 with 3 printer codes and 21 with 10 printer codes). *Page throw markers. *Multiple copies. *Odd/even page headers/footers with page numbers. *Multi file printing (new page or continuous). *Print specified pages. *Works with any printer. *True display superscript and subscript numbers. *User defined print characters. *Load ASCII files from other word processors. *Save ASCII files for other word processors. *Files can be encrypted. *Maximum file size about 9 pages of text.

BrunSpell Features

*Memory resident with word processor. *Checks 4,000 words/min. *30,000 word dictionary. *No American spellings. *Add up to 5,000 of your own words. *Instant lookup. *Helps to find correct spelling. *Automatic correction.

DataFile Features

*Alphabetical, numerical, date sorting on any field. *User defined headings. *Search routine. *Data merging into BrunWord. *Label printing.

Comparisons

We have tested BrunWord 6128, Protext and Tasword 6128 with the same file of 3366 words. We loaded our original free booklet into BrunWord and then saved it as an ASCII file so that the same file could be loaded into all three programmes.

The first test was to compare the scrolling speed of the screen, using line by line scrolling. This is a vital performance test as the CPC6128 tends to be naturally slow at this task. BrunWord scrolled 40% faster than Protext which in turn scrolled 19% faster than Tasword.

Protext was the fastest to justify but used a simple process that added spaces at the centre of each line, giving the middle of the text a bulging appearance. It did not display as it went along and so needed a separate operation to see the result. BrunWord displayed as it justified and produced the best appearance of all three. BrunWord was 30 times faster than Tasword.

Our simulated typing test achieved 218 words per minute. Both BrunWord and Protext had no trouble at this speed but Tasword was very slow inserting text into the start of a paragraph and could only handle 16 words per minute.

The spelling test checked all 3366 words. BrunSpell took 52 seconds and needed no disc changes. Prospell took 6 min 24 sec and needed 8 disc changes. Taspell took 18 min 46 sec and needed 3 disc changes.

Quotes

"It may seem that I have just written a very long advert for BrunWord 6128 but I haven't, I'm just so impressed." (Phil Craven, ACU Feb 90, page 25).

"One such is Peter Brunning's BrunWord 6128 which is without doubt in my mind, the most powerful and friendly word processor available for the 6128 today, with the possible exception of.... BrunWord Elite!" (David Dorn, ACU July 90, page 43).

How They Compare

	BrunWord 6128 & BrunSpell	Protext Disc & Prospell	Tasword 6128 & Taspell
Typing into 241 word paragraph Typing into start of text	218 w/m 218 w/m	218 w/m 218 w/m	16 w/m 150 w/m
Scroll to end, line by line	1 min 27 sec	2 min 2 sec	2 min 25 sec
Justify paragraph of 241 words	1 sec	0·2 sec	34 sec
Change appearance to format and Appearance to Format	17 sec	17 sec	53 sec
Spelling check 3366 words Average speed Disc changes	52 sec 3883 w/m None	6 min 24 sec 526 w/m 8	18 min 46 sec 179 w/m 3
Test word at cursor	0·5 sec	Not possible	Not possible
Screen format - columns Page boundaries	40, 80, 128 Shown	40 or 80 Not shown	80 only Shown

Info-Script £50

The full power of any database is only realised when the data can be put to use. A typical database is centred around saving, sorting, finding and displaying the data. These functions are obviously important but only if there is a purpose to storing the data.

We gave considerable thought to this and decided that the usual shortcoming of a database lies in the difficulty of presenting the data. Most programmes overcome this by including a text processing system that is really a simple word processor. We find the idea of using an inadequate word processor as totally unacceptable. Months had already been spent optimising the BrunWord routines into their smallest most efficient form, so we decided that the whole of the word processor should be built into our database.

Info-Script uses many of the internal routines of BrunWord, making a very compact combination and allowing both programmes, 6 pages of text and 1000 names and addresses to be in the memory at the same time, using an unexpanded CPC6128 (or CPC464 + disc + 64K). The great advantage of this is the speed and convenience of being able to access both programmes and their related data without any disc delays. Add to this the progressive search routines, the unique four marker system and the arithmetical functions and you will begin to understand the excitement of our customers.

Info-Script has all the features of the BrunWord 6128 package and includes a second disc as a backup copy. Type RUN "BRUNWORD" to load the word processor, spelling checker and 30,000 word dictionary or RUN "INFO" to load the database and the word processor.

Database Features

*Very fast (e.g. takes 1 second to search 2000 addresses for surname 'Smith', initial 'B'). *Specific field search and/or progressive general search. *Instant sort on any field, alphabetical, numerical, date or reverse order (takes no time as the data does not move). *3 sets of user defined headings for each file. *4 markers for instant selection, plus one temporary marker. *Markers can be cleared or inverted and any pair can be added (allows complex searches to be quickly and easily performed). *No setting up of field type or length. *Efficient storage. *Relational records, Parents, Sons and Daughters. *Simple field to field arithmetic with running total. *Direct data merging into BrunWord. *Easy direct label printing, 1 across, 2 across, left of 2 or right of 2. *Single or multi-step.

Data Merging Features

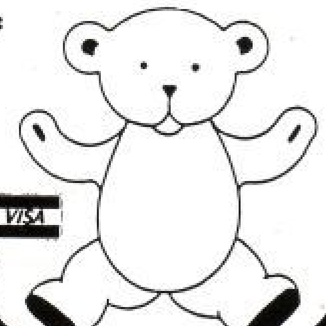
*Simple intelligent system, &N &A &D construct full name, full address and date. *&1 &2 etc specify individual fields. *Insert or fixed format merging. *Automatic justify after merging. *Single step (see before printing) or multi-step. *Stop any time, go to word processor, restart same place. *Merge data from several records for summary, invoice, purchase order etc. *Simple arithmetic. *Running total. *Running VAT total. *Conditional loading. *Conditional printing. *Repeat patterns.

Elite Example

This advertisement, including the lines, the columns of text, the tabulation and the price list, was printed directly from BrunWord Elite, in one operation at A3 size. (The address layout and teddy were not printed, and the large heading had extra help).

Send cheque/PO/Access number/Visa number to:

Brunning Software
34 Helston Road,
Chelmsford, Essex, CM1 5JF
Telephone (0245) 252854 (24 Hours)



BrunWord 6128 with BrunSpell & DataFile. . . £30.00
Info-Script with BrunWord 6128 & BrunSpell. . £50.00
9 Pin BrunWord Elite £55.00
9 Pin BrunWord Elite with Info-Script. £92.00
24 Pin BrunWord Elite with Info-Script. £90.00
100 Letters (needs Info-Script). £15.00

Supplied on 3in Disc for CPC6128 or CPC6128 Plus.
You must state which computer.

All prices are inclusive for UK. Overseas orders sent insured air mail - Europe add £2.50 : Rest add £7.50

BrunWord Elite

Elite Word Processor For CPC6128 £55

BrunWord Elite has a unique advantage over its rivals - it can only be used with dot matrix printers. All other significant word processors are compromised to drive both daisy wheel and dot matrix printers.

100 Letters £15

100 Letters is a utility for use with Info-Script, enabling pre-written letters to be easily selected and personalised. To write a letter, simply edit the letter number into the ACTION field of the correct address record then press T for Transfer. The required letter will be loaded into BrunWord and personalised with the name and address that you have chosen and any other specified data. The letter is then in the BrunWord editor ready for you to modify in any way you choose. All the normal editing features of BrunWord can be used and when it is exactly what you want, it can be printed out in the normal way.

Library

We have written a library of over 50 letters to give you a starting point for some of those tricky letters that are so difficult to write when you are under pressure to do it quickly.

The library letters supplied, will not contain the correct information about your personal details such as your bank account number, but this data can easily be edited into the letter patterns. The 100 Letters manual is written at grass roots level. Meaning that every instruction has a complete step by step sequence, explaining how to create a name and address file, how to use your own name and addresses file, how to edit the library letters and how to write your own letters from the simple single letter patterns, to the most complex multi letter patterns.

The Limit

Even the most cautious of Info-Script users will be able to write single purpose letter patterns and if only this type is used then about another 40 letters can be added to the library. Multi purpose letters are a little more complex but are well worth the extra effort. Using these, the upper limit depends only on the skill of the writer and several hundred should be no problem.

A third type of letter pattern is mainly aimed at business users such as solicitors, doctors, school teachers, estate agents etc. In this case the letter consists of up to ten pre-written paragraphs. This letter is used in the normal way, by typing the letter number into the ACTION field but you would also indicate which of the paragraphs are to be used. A pattern for this is on the 100 Letters disc. If you use this as your starting point and carefully edit the text without changing the control pattern, then you need no more skill for this, than the single purpose letter pattern. Subject to adequate disc space, 40 separate letters could be added using this style.

Free Booklet

We have written a 16 page A4 booklet which explains all about our programmes, starting with BrunWord 6128 and going on to Info-Script and BrunWord Elite. It is free to all CPC owners. Simply write your name and address in block capitals on a sheet of paper and send in a envelope to 'BrunWord & Printer', Brunning Software, at the address below.

Letters

I will take this opportunity to say how much I like BrunWord. I bought my Amstrad (CPC6128) a few years ago as an update for my Dragon. However, I was very disappointed in the software available for it. I'm not interested in games. I was in two minds whether or not to buy BrunWord but in one foul swoop you gave me back faith that some people were really using the Amstrad to its best ability. It's an excellent program which I would recommend to anyone without a second thought.
Mr L (Burgess Hill).

It is some 24 months since I purchased BrunWord. In that time it has performed far beyond my expectations and become my sole companion for word processing. Thank you once again for supplying what I would call a true word processing package, far, far superior to Mini Office, Tasword and Protext. I just wish that a similar system could be achieved for the Amstrad PC/PPC range within a respectable budget.
Mr B (Newport-on-Tay).

In the early days of computing a printer was simply a form of electric typewriter. (High quality printing, noisy and very slow). Then came the dot matrix printers, specially designed for computers. (Medium quality printing, not so noisy and much faster). Over the years, the typewriter style has become the daisy wheel printer and although greatly improved, it has been left far behind with the quality, speed and versatility of modern dot matrix printers.

Most word processors, including BrunWord 6128, can use dot matrix and daisy wheel printers. This creates the need for a style of printer control that is acceptable to two very different types of printers.

BrunWord Elite does not have this restriction as it is specifically written to be used only with dot matrix printers. This gives it a unique advantage over other word processors and as a result it is able to provide much more advanced printer control.

This is taken even further, as BrunWord Elite is supplied with an 8 Bit Printer Status Port which allows the programme to continuously monitor the status of the printer, (as well as providing the missing 8th bit for the original CPC6128). This means that BrunWord Elite is able to respond in a more sophisticated way than normally possible. It will wait for ON LINE or <ESC> if the printer is initially OFF or OUT OF PAPER but automatically returns to the editor if the printer is turned OFF.

24 Pin Fonts

Before we designed the fonts for BrunWord Elite, we studied the type face of several good magazines and newspapers. We concluded that the bulk of the text was printed in fonts that derive from two basic themes. Our main fonts Fineline and Finetype are variations of these two styles, optimised for the limitations of dot matrix printers. Fineline is supplied in three sizes and Finetype in two sizes. To these we added a display font in computer style type and a straightforward 'Heavy' font. Altogether there are 7 fonts supplied, four are full 24 pin fonts, two are middle size 21 pin fonts and one is a small size 16 pin font.

BrunWord Elite Features

All the features and speed of BrunWord 6128 and BrunSpell, plus:-

*Print in columns *Specify page layout *Use special high quality proportional fonts *Use advanced micro justification with proportional text *Set printer margins independently *Move print head up or down paper, specified in inches from top *Set micro line spacing within text *Print line or box by specifying size and line thickness *Use absolute TABs with proportional text *Download a file directly from disc during printing. *Can be supplied with Info-Script for data merging.

Headline

Headline is a print enhancement utility specially designed for use with low cost 9 pin printers. It enables virtually all the features of BrunWord Elite, including the 24 pin fonts, to be used with any 9 pin Epson compatible printer. The only requirement is that the printer must have quadruple graphics (all well known modern 9 pin printers).

Print enhancers are not a new idea but when BrunWord Elite is used with Headline, it is possible to achieve the same resolution from an ordinary 9 pin printer as normally only possible from a good 24 pin printer. We cannot change the actual dot size, as this is governed by the print head, what happens is that the 9 pin printer produces larger characters when driven with a 24 pin font.

Headline has some powerful features. It is possible to use proportional text with true micro justification where the space between letters is adjusted to give the column an even right margin, rather than the space between words. Single, double or eight times height can be used and the width can be expanded in steps of one up to 9 times. It can even adjust the width to the maximum possible for a particular column.

Another feature of Headline is designed to overcome faint printing which can be a problem with 9 pin printers. Headline can be set to multi-strike up to 9 times, making it possible to squeeze black printing out of quite an old ribbon.

Printers which do not normally have double height printing (most Amstrad printers e.g. DMP2000, DMP2160 etc, and many Epson printers e.g. RX80, LX800, EX800), will still be able to use all the features of Headline, including double and eight times height.

9 Pin Elite £55

The Elite system for 9 pin printers consists of BrunWord Elite, BrunSpell, Headline, an 8 bit printer status port and 7 'type setting' fonts (fonts are 24 pin in size but only for 9 pin printers). Total price £55.00 inclusive.

9 Pin Elite+Info £92

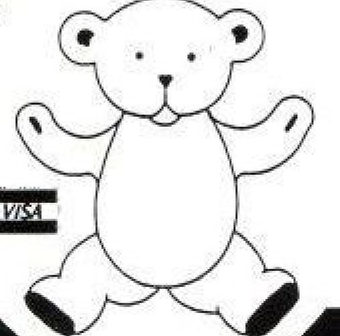
The Elite system as above but including Info-Script and a backup disc. Total Price £92.00 inclusive.

24 Pin Elite+Info £90

The Elite system for 24 pin printers consists of BrunWord Elite, BrunSpell, Info-Script, back up disc, an 8 bit printer status port and 7 'type setting' fonts for downloading to a 24 pin printer. Total price £90.00 inclusive.

Send cheque/PO/Access number/Visa number to:

Brunning Software
34 Helston Road,
Chelmsford, Essex, CM1 5JF
Telephone (0245) 252854 (24 Hours)



BrunWord 6128 with BrunSpell & DataFile. . .	£30.00
Info-Script with BrunWord 6128 & BrunSpell. .	£50.00
9 Pin BrunWord Elite	£55.00
9 Pin BrunWord Elite with Info-Script.	£92.00
24 Pin BrunWord Elite with Info-Script.	£90.00
100 Letters (needs Info-Script).	£15.00

Supplied on 3in Disc for CPC6128 or CPC6128 Plus.
You must state which computer.

All prices are inclusive for UK. Overseas orders sent insured air mail - Europe add £2.50 : Rest add £7.50

COMBAT ZONE

Sega very much to the fore this month, as John Cook battles his way through scores of electronic baddies to bring you his report in from the arcades

Another crop of late summer releases for the coin-op freaks out there – again with Sega very much in the forefront with three new releases – one a little more off the wall than most.

First off, however, let's look at a new development in the coin-op world that could mean you personally having a true arcade quality machine in your own front room – not three years from here, but right now!

This machine is called the Neo Geo and is primarily a game console produced by a company called SNK. Sounds familiar? It should be, as SNK are the biggest of the second division coin-op companies, producing such hits last year as Mechanised Attack and Ikari Warriors.

The machine, released now in Japan, costs about £250 and has an amazing specification that allows it to come up with true arcade PCB quality of sound and graphics. Not bad, eh. There is one snag, however. The games, in cartridge form, cost around £150 each! We complain enough now about shelling out a tenner for a new game, but imagine forking ut £150!

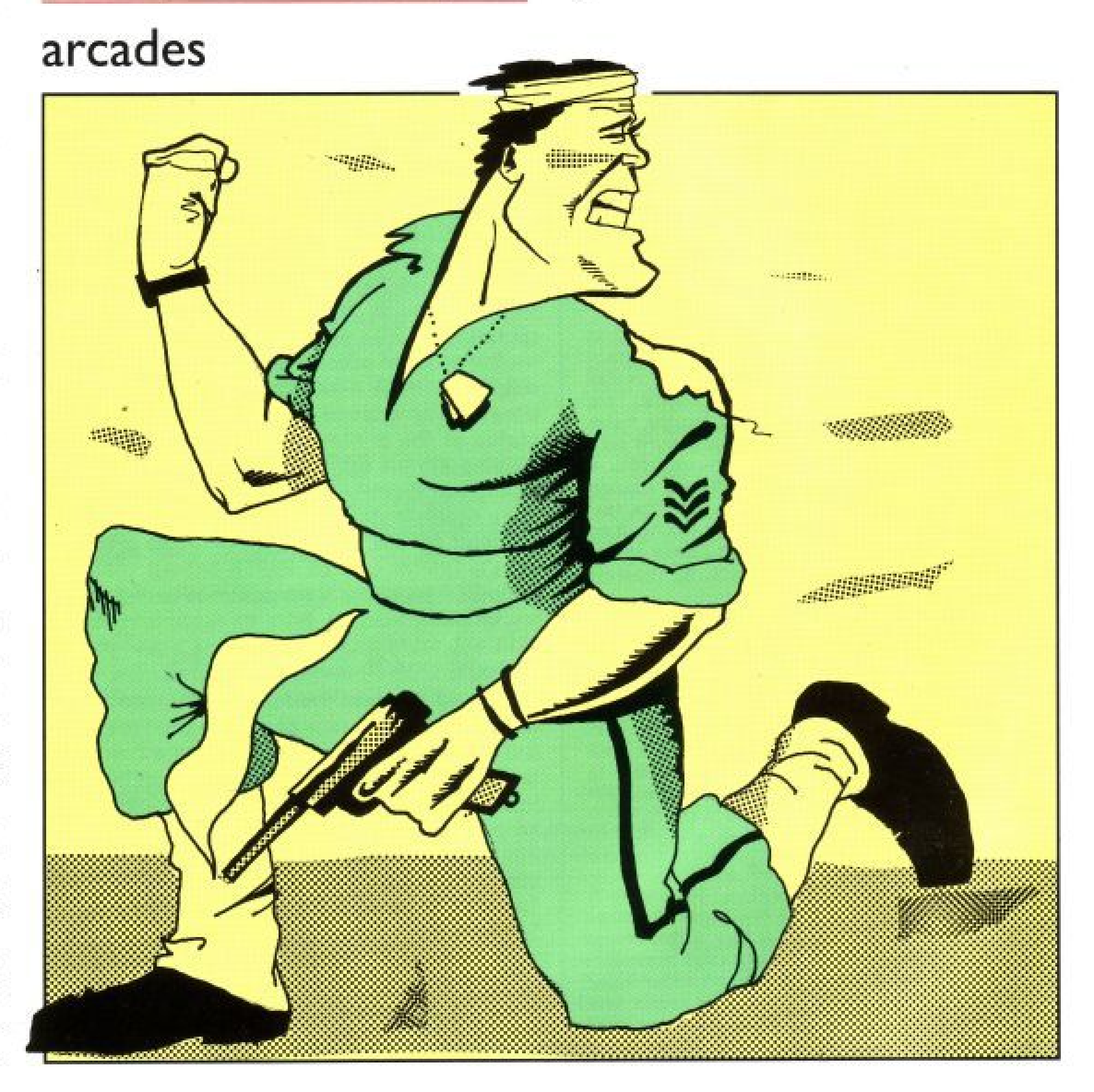
Why they are they so expensive? Well, there's sure a lot of memory in them for a start – and it could be there are components stuck in the box as well, which could explain the price.

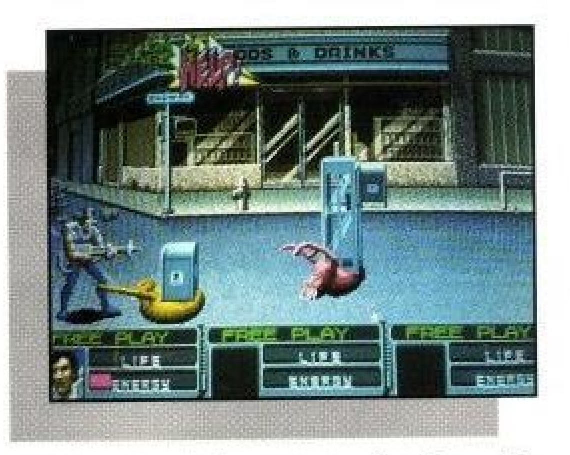
There is one unique feature of this system – you can save your game on a "smart card" and then stick these into a Neo Geo in the arcades... starting the game there from where you left off at home. Because the Neo Geo is being marketed to the trade as a fully fledged arcade system as well. Interesting, huh?

In any case, the very high cost of the cartridge suggests that there is no way that the Neo Geo is going to become a true home machine as we know it – but if the games written for it are good enough, then it may well build up a rental following, with the punters hiring out cards for a couple of nights at a time.

I hope they'll be better than the crop of games that the system has been launched with. Although technically excellent, they lack for the most part, the kind of stuff that grips you by the scruff of the neck and forces you to put that last 10p in the slot.

Unlike Saga's first offering this month – Alien Storm. OK, here's the scam. You (with two others if you like), run a fast food operation out of the back of a caravan, right? This is, however, an undercover operation – as when you get wind of an outbreak of Alien Infes-





tation... which happens quite a lot... it's down with the shutters, off with the aprons and on with the incredibly powerful Alien zapping weaponry.

Part sideways scroller shoot-em up (rather like Robocop if you like) what really hits you is the surreal element to the design and the graphics. The first time you play the game, it really hits you with some visual surprises.

So you're walking past this fire hydrant. It turns into an alien and starts attacking you. Blagh. Run back towards the phone booth to gather your breath... only to be attacked by that, as it transforms into an unpleasant green blobby thing. Those with less than a firm grip on reality, beware!

This section ends with you walking into a supermarket – now we go onto a Cabal like section in the aisles, amongst the soap powder and the cans of beans. Shoot that Alien, watch out for the innocent humans. Or not, depending on what mood you're in.

Alien Storm is utterly wonderful, and what's more could also be transferred to home format pretty easily. Here's to seeing it on the CPC sometime early next year!

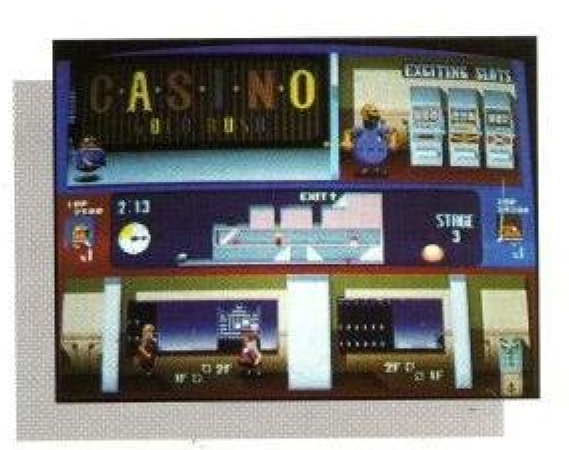
Meanwhile, Atari Games have come out with something they are hoping will turn out to be a summer sizzler for

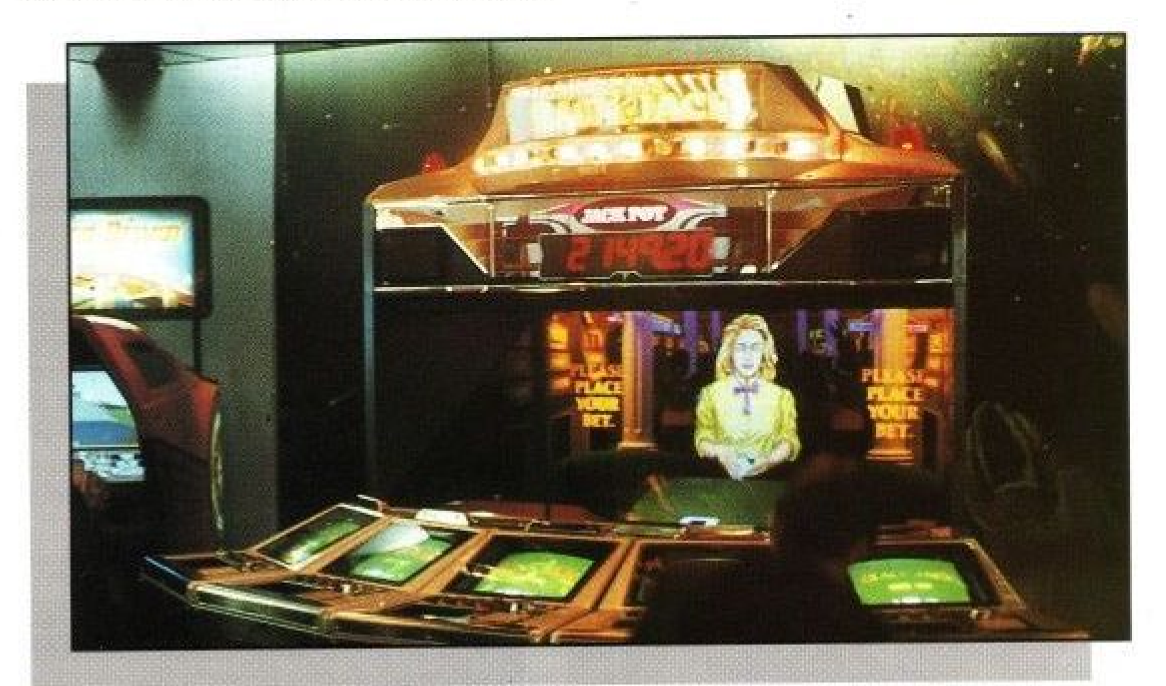


them. It's called Hydra, although it could arguably be better named Roadblaster III. First there was Roadblaster. Then there was S.T.U.N. Runner. in 3D vectors. Now it's back to sprites with the latest incarnation of the yoke control system, Hydra.

Civilization has broken down again, so it seems, and high tech terrorists are at large. So what do governments do when they want to send very important packages that contain stuff lime mutant viruses and Doomsday devices to one and other? Do they call Federal Express, DHL, UPS or Parcel Force. No way – they call you, in your trusty Hydracraft, a kind of hydrofoil with limited flying powers.

Instead of a road, it's a river or a stretch of coastline, and the standard of







graphics are excellent. Action is fast and furious, with you having to pick off enemies, while simultaneously boosting up into the air to try and pick up fuel pods. Not easy – but give it a try.

You American Football fans out there, any idéa what they used to do for their gridiron kicks in the Middle Ages? Played something called Pigskin, according to Data East's new game. I haven't played it much, but the style of graphic is taken from the other very playable Data East game, Arch Rivals. It has a good pedigree and I'd say that it looks well worth a try if you're into sports games.

Talking of graphics styles, here's one that you won't forget in a hurry – the Bonanza Brothers, again from Sega. The light source shaded rendering in this game gives all the figures, already in a weird pop art format, a sheen that pushes this way out from the crowd.

You, or you plus Brother Number Two on a split screen, have to enter a well guarded building, grab all the goodies and then make your way to the roof tobe airlifted off by balloon.

Not so easy, as you can kill the guards (only stun them for a period of time) and many of them are largely impervious to your weapons anyway

Thought and timing are paramount to succeed in this game. Which means it's unlikely to be very successful in the arcades. But it would make a grand conversion for home formats however. Let's hope it will make it there soon.

Finally, have you ever played Blackjack or Pontoon? It's one of the big games you'll see if you ever visit a Casino – and now you can expect it to make its way to the big arcades. Moderated by a computer controlled video image of a female croupier!

This unit, again manufactured by Sega, has a large screen with six seats spread around it in a semi-circle, each with a monitor of its own. The croupier "deals" cards to each of the occupied seats and betting takes place as normal. You all play against the croupier, just like a Casino.

Not my cup of tea, but any aspiring card sharps might care to try their hands. That's it for now – back next month with exciting news of the new autumn line up.

Superwonder cheat

This month vax is short on words but long on cheating power

Hello, and welcome to a somewhat short Hacker's Haunt. Not the hacker, the column. Anyone calls me short, and I'll punch 'em in the kneecap. Yes, short 'cos I'm off on me hols for a fortnight at the moment, so don't be disappointed if your pokette or proggykins hasn't appeared this month.

One poke that will get in this month is a weirdo from a couple of 15 year olds called John Green and Stu Gillespie from Moria in Northern Ireland. Its for a racing game called Super Sprint, which I haven't got, so I'll just have to take their word for it.

The basic idea is to drive your car straight off the top left-hand corner of the track, taken from a bird's eye view (probably a vulture, considering the current track safety records). When you get there, keep moving up, down, left, and right all the time You must be in two player mode, but only one of you can do it at a time. Learn to take turns.

When you've gone round the bend the wrong way, and I should know, you get this lot: infinite spanners, a huge top score, choices at the end of each level without collecting spanners, lots of extra "100"s on the track for you to collect (thus increasing your phenomenal high score), and a great car, which'll help you avoid becoming vulture food.

Some dodge that, and speaking of dodging, mind out when you pass your letterbox, in case something large should come through it and flatten you.

The rest of you guys (and girls!) can feel free to send in your own wierdos, pokes, cheats, hints, tips, etc., but make sure they're original. The ed doesn't like it when our pokes have appeared elsewhere, and nobody who has been found out has ever been successfully reassembled.

Now a warning on behalf of the Late-Night Snacking Hacker's Club: Don't try to eat digestive biscuits while copying discs on a single floppy machine. The plastic's too crunchy and AMSDOS doesn't understand McVitie's format.

The other pokette this month is a huge beggar. From the truly famous John Girvin stable, this is the definitive poke for all you ever wanted from the disq version of Super Wonderboy, but

were afraid to ask about. Lay on extra cookies and milk, 'cos you're in for a marathon typing session here:



```
1 'SUPERWONDERBOY (disq) hacks
2 'By John Girvin
3 'March 1990
4 '
5 'Once more, blame Speedlock
Associates
6 '
7 'The Sphinx had Chicken
8 '
10 MODE 1:CALL &BC02:|TAPE
20 OPENOUT "d":MEMORY &6FFF
30 CLOSEOUT:PEN 1:|DISC
40 PRINT"SUPERWONDERBOY disq
hack by John Girvin"
50 lne=1000:RESTORE:addr=&7000
60 check=0
70 LOCATE 1,3:PRINT "POKEing
  line";lne
80 FOR dat=0 TO 7
90 READ byte$
100 IF byte$="ATLAST!" THEN 180
110 byte=VAL("&"+byte$)
120 POKE addr+dat,byte
130 check=check+byte
140 NEXT dat
150READ cksum$:cksum = VAL
  ("&"+cksum$)
160 IF check<>cksum THEN 210
170lne=lne+10:addr=addr+8:GOTO 60
180 MODE 1
190 PRINT"Insert game disq and press
  a key..."
200 CALL &BB18:CLS:CALL &7000
210 MODE 1
220 PRINT "e%%rRROppR okNn
@|YYutNeEeEeE";lne:END
230 '*** LEAVE ALL LINES IN ***
240 DATA f3,21,f7,78,cd,d4,bc,22,502
250 DATA f4,78,79,32,f6,78,0e,c9,45c
260 DATA 11,00,00,21,40,00,df,f4,245
270 DATA 78,3e,c3,21,27,70,22,1d,270
280 DATA 01,32,1c,01,c3,00,01,21,135
290 DATA 81,01,11,18,9d,01,49,0b,19d
300 DATA ed,b0,3e,35,ed,4f,21,00,36d
310 DATA c0,11,00,c0,01,32,00,ed,2b1
320 DATA b0,21,39,9d,01,28,0b,16,1f1
330 DATA 69,ed,5f,aa,86,2f,77,23,3ae
340 DATA 0b,78,b1,c2,49,70,c3,59,3cb
350 DATA 70,21,00,c0,11,00,c0,01,223
360 DATA 20,00,ed,b0,31,68,70,ea,3b0
370 DATA 7d,70,21,60,9d,11,4b,9d,304
380 DATA 01,01,0b,ed,5f,ae,77,ed,36b
390 DATA a0,1b,e0,18,f6,21,00,c0,38a
400 DATA 11,00,c0,01,32,00,ed,b0,2a1
410 DATA 21,80,9d,01,e1,0a,16,5f,29f
420 DATA ed,5f,aa,86,2f,77,23,0b,350
430 DATA 78,b1,c2,90,70,c3,a0,70,4be
440 DATA 21,9c,9d,01,c5,0a,16,4f,28f
450 DATA ed,5f,ae,aa,77,57,23,14,3a9
460 DATA 0b,78,b1,ca,b9,70,c3,a8,492
470 DATA 70,01,8e,7f,ed,49,01,8e,343
480 DATA 7f,ed,49,3a,f8,78,fe,f3,550
490 DATA ca,cb,70,21,00,c0,11,00,2f7
500 DATA c0,01,32,00,ed,b0,21,d1,382
510 DATA 9d,01,90,0a,16,2d,ed,5f,2c7
520 DATA aa,86,d6,07,77,23,0b,78,32a
530 DATA b1,c2,de,70,c3,ef,70,21,504
540 DATA 00,c0,11,00,c0,01,64,00,1f6
550 DATA ed,b0,21,05,9e,01,5c,0a,2c8
560 DATA dd,21,05,9e,dd,21,05,9e,342
570 DATA 11,1c,00,11,1c,00,ed,5f,1a6
580 DATA dd,ac,96,dd,ad,77,23,0b,44e
590 DATA 78,b1,c2,20,71,c3,23,71,3d3
600 DATA c3,0e,71,21,00,c0,11,00,234
610 DATA c0,01,64,00,ed,b0,21,20,303
620 DATA 9e,01,41,0a,ed,5f,ae,77,35b
630 DATA 23,0b,78,b1,c2,34,71,c3,381
640 DATA 42,71,21,00,c0,11,00,c0,265
650 DATA 01,32,00,ed,b0,21,43,9e,2d2
660 DATA 01,1e,0a,16,0c,ed,5f,aa,241
670 DATA 86,2f,77,23,0b,78,b1,c2,345
680 DATA 55,71,c3,65,71,01,8e,7f,36d
690 DATA ed,49,01,8e,7f,ed,49,3a,3b4
700 DATA f8,78,fe,f3,ca,77,71,21,534
710 DATA 00,c0,11,00,c0,01,32,00,1c4
720 DATA ed,b0,21,79,9e,01,e8,09,3c7
730 DATA 16,6d,ed,5f,aa,86,d6,07,3dc
740 DATA 77,23,0b,78,b1,c2,8a,71,38b
750 DATA c3,9b,71,21,00,c0,11,00,2c1
760 DATA c0,01,64,00,ed,b0,21,98,37b
770 DATA 9e,01,c9,09,ed,5f,ae,77,3e2
780 DATA 23,0b,78,b1,c2,ac,71,c3,3f9
790 DATA ba,71,21,00,c0,11,00,c0,2dd
800 DATA 01,64,00,ed,b0,21,ba,9e,37b
810 DATA 01,a7,09,16,75,ed,5f,86,30e
820 DATA 92,77,23,0b,78,b1,c2,cd,3ef
830 DATA 71,c3,dc,71,21,00,c0,11,373
840 DATA 00,c0,01,20,00,ed,b0,31,2af
850 DATA eb,71,ea,00,72,21,e1,9e,458
860 DATA 11,cc,9e,01,80,09,ed,5f,351
870 DATA ae,77,ed,a0,1b,e0,18,f6,4bb
880 DATA 21,00,c0,11,00,c0,01,64,217
890 DATA 00,ed,b0,21,12,9f,01,4f,2bf
900 DATA 09,dd,21,12,9f,dd,21,12,2c8
910 DATA 9f,11,1c,00,11,1c,00,ed,1c6
920 DATA 5f,dd,ac,96,dd,ad,77,23,4a2
930 DATA 0b,78,b1,c2,31,72,c3,34,390
940 DATA 72,c3,1f,72,21,00,c0,11,2b8
950 DATA 00,c0,01,20,00,ed,b0,31,2af
960 DATA 43,72,ea,58,72,21,35,9f,35e
970 DATA 11,20,9f,01,2c,09,ed,5f,252
980 DATA ae,77,ed,a0,1b,e0,18,f6,4bb
990 DATA 21,4e,9f,01,13,09,16,19,15a
1000 DATA ed,5f,ae,aa,77,57,23,14,3a9
1010 DATA 0b,78,b1,ca,71,72,c3,60,404
1020 DATA 72,21,00,c0,11,00,c0,01,225
1030 DATA 64,00,ed,b0,21,6c,9f,01,32e
1040 DATA f5,08,ed,5f,ae,77,23,0b,39c
1050 DATA 78,b1,c2,82,72,c3,90,72,4a4
1060 DATA 01,8e,7f,ed,49,01,8e,7f,352
1070 DATA ed,49,3a,f8,78,fe,f3,ca,59b
1080 DATA a2,72,21,00,c0,11,00,c0,2c6
1090 DATA 01,32,00,ed,b0,21,a2,9f,332
1100 DATA 01,bf,08,16,6e,ed,5f,aa,342
1110 DATA 86,d6,07,77,23,0b,78,b1,331
1120 DATA c2,b5,72,c3,c6,72,21,00,405
1130 DATA c0,11,00,c0,01,64,00,ed,2e3
1140 DATA b0,21,c1,9f,01,a0,08,ed,3c7
1150 DATA 5f,ae,77,23,0b,78,b1,c2,39d
1160 DATA d7,72,c3,e5,72,11,8f,08,40b
1170 DATA 21,d2,9f,35,23,1b,7a,b3,332
1180 DATA c2,eb,72,c3,f6,72,21,00,46b
1190 DATA c0,11,00,c0,01,64,00,ed,2e3
1200 DATA b0,21,f1,9f,01,70,08,ed,3c7
1210 DATA 5f,86,77,23,0b,78,b1,c2,375
1220 DATA 07,73,c3,15,73,21,00,c0,2a6
1230 DATA 11,00,c0,01,64,00,ed,b0,2d3
1240 DATA 21,13,a0,01,4e,08,16,71,1b2
1250 DATA ed,5f,86,92,77,23,0b,78,381
1260 DATA b1,c2,28,73,c3,37,73,21,39c
1270 DATA 00,c0,11,00,c0,01,20,00,1b2
1280 DATA ed,b0,31,46,73,ea,5b,73,43f
1290 DATA 21,3a,a0,11,25,a0,01,27,1f9
1300 DATA 08,ed,5f,ae,77,ed,a0,1b,421
1310 DATA e0,18,f6,21,00,c0,11,00,2e0
1320 DATA c0,01,64,00,ed,b0,01,08,2cb
1330 DATA 08,31,5f,a8,d1,ed,5f,aa,407
1340 DATA 57,d5,3b,0b,78,b1,c2,6c,3c9
1350 DATA 73,c3,7c,73,01,8e,7f,ed,420
1360 DATA 49,01,8e,7f,ed,49,3a,f8,3bf
1370 DATA 78,fe,f3,ca,8e,73,21,00,455
1380 DATA c0,11,00,c0,01,32,00,ed,2b1
1390 DATA b0,21,8e,a0,01,d3,07,16,2f0
1400 DATA 6e,ed,5f,aa,86,d6,07,77,43e
1410 DATA 23,0b,78,b1,c2,a1,73,c3,3f0
1420 DATA b2,73,21,00,c0,11,00,c0,2d7
1430 DATA 01,64,00,ed,b0,21,ad,a0,370
1440 DATA 01,b4,07,ed,5f,86,77,23,328
1450 DATA 0b,78,b1,c2,c3,73,c3,d1,4c0
1460 DATA 73,21,00,c0,11,00,c0,01,226
1470 DATA 20,00,ed,b0,31,e0,73,ea,42b
1480 DATA f5,73,21,d4,a0,11,bf,a0,46d
1490 DATA 01,8d,07,ed,5f,ae,77,ed,3f3
1500 DATA a0,1b,e0,18,f6,21,00,c0,38a
1510 DATA 11,00,c0,01,32,00,ed,b0,2a1
1520 DATA 21,f4,a0,01,6d,07,16,63,2a3
1530 DATA ed,5f,aa,86,2f,77,23,0b,350
1540 DATA 78,b1,c2,08,74,c3,18,74,3b6
1550 DATA 21,00,c0,11,00,c0,01,32,1e5
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```
1560 DATA 00,ed,b0,21,17,a1,01,4a,2c1
1570 DATA 07,16,6a,ed,5f,aa,86,2f,332
1580 DATA 77,23,0b,78,b1,c2,2b,74,32f
1590 DATA c3,3b,74,21,00,c0,11,00,264
1600 DATA c0,01,20,00,ed,b0,31,4a,2f9
1610 DATA 74,ea,5f,74,21,3e,a1,11,342
1620 DATA 29,a1,01,23,07,ed,5f,ae,2ef
1630 DATA 77,ed,a0,1b,e0,18,f6,21,42e
1640 DATA 00,c0,11,00,c0,01,64,00,1f6
1650 DATA ed,b0,01,04,07,31,5f,a8,2e1
1660 DATA d1,ed,5f,aa,57,d5,3b,0b,439
1670 DATA 78,b1,c2,70,74,c3,80,74,486
1680 DATA 01,8e,7f,ed,49,01,8e,7f,352
1690 DATA ed,49,3a,f8,78,fe,f3,ca,59b
1700 DATA 92,74,21,00,c0,11,00,c0,2b8
1710 DATA 01,32,00,ed,b0,21,92,a1,324
1720 DATA 01,cf,06,16,6e,ed,5f,aa,350
1730 DATA 86,d6,07,77,23,0b,78,b1,331
1740 DATA c2,a5,74,c3,b6,74,21,00,3e9
1750 DATA c0,11,00,c0,01,64,00,ed,2e3
1760 DATA b0,21,b1,a1,01,b0,06,ed,3c7
1770 DATA 5f,ae,77,23,0b,78,b1,c2,39d
1780 DATA c7,74,c3,d5,74,21,00,c0,428
1790 DATA 11,00,c0,01,64,00,ed,b0,2d3
1800 DATA 21,d0,a1,01,91,06,ed,5f,376
1810 DATA ae,77,23,0b,78,b1,c2,e6,424
1820 DATA 74,c3,f4,74,21,00,c0,11,391
1830 DATA 00,c0,01,32,00,ed,b0,21,2b1
1840 DATA f3,a1,01,6e,06,16,0b,ed,317
1850 DATA 5f,aa,86,2f,77,23,0b,78,2db
1860 DATA b1,c2,07,75,c3,17,75,01,33f
1870 DATA 8e,7f,ed,49,01,8e,7f,ed,43e
1880 DATA 49,3a,f8,78,fe,f3,ca,29,4d7
1890 DATA 75,21,00,c0,11,00,c0,01,228
1900 DATA 32,00,ed,b0,21,29,a2,01,2bc
1910 DATA 38,06,16,6c,ed,5f,aa,86,33c
1920 DATA d6,07,77,23,0b,78,b1,c2,36d
1930 DATA 3c,75,c3,4d,75,21,00,c0,317
1940 DATA 11,00,c0,01,64,00,ed,b0,2d3
1950 DATA 21,48,a2,01,19,06,ed,5f,277
1960 DATA ae,77,23,0b,78,b1,c2,5e,39c
1970 DATA 75,c3,6c,75,21,00,c0,11,30b
1980 DATA 00,c0,01,64,00,ed,b0,21,2e3
1990 DATA 6a,a2,01,f7,05,16,74,ed,380
2000 DATA 5f,86,92,77,23,0b,78,b1,345
2010 DATA c2,7f,75,c3,8e,75,21,00,39d
2020 DATA c0,11,00,c0,01,20,00,ed,29f
2030 DATA b0,31,9d,75,ea,b2,75,21,425
2040 DATA 91,a2,11,7c,a2,01,d0,05,338
2050 DATA ed,5f,ae,77,ed,a0,1b,e0,4f9
2060 DATA 18,f6,21,00,c0,11,00,c0,2c0
2070 DATA 01,64,00,ed,b0,21,c2,a2,387
2080 DATA 01,9f,05,dd,21,c2,a2,dd,3e4
2090 DATA 21,c2,a2,11,1c,00,11,1c,1df
2100 DATA 00,ed,5f,dd,ac,96,dd,ad,4f5
2110 DATA 77,23,0b,78,b1,c2,e3,75,3e8
2120 DATA c3,e6,75,c3,d1,75,21,00,448
2130 DATA c0,11,00,c0,01,20,00,ed,29f
2140 DATA b0,31,f5,75,ea,0a,76,21,3d6
2150 DATA e5,a2,11,d0,a2,01,7c,05,38c
2160 DATA ed,5f,ae,77,ed,a0,1b,e0,4f9
2170 DATA 18,f6,21,00,c0,11,00,c0,2c0
2180 DATA 01,64,00,ed,b0,21,01,a3,2c7
2190 DATA 01,60,05,ed,5f,86,77,23,2d2
2200 DATA 0b,78,b1,c2,1b,76,c3,29,373
2210 DATA 76,01,8e,7f,ed,49,01,8e,349
2220 DATA 7f,ed,49,3a,f8,78,fe,f3,550
2230 DATA ca,3b,76,21,00,c0,11,00,26d
2240 DATA c0,01,32,00,ed,b0,21,37,2e8
2250 DATA a3,01,2a,05,16,7d,ed,5f,2b2
2260 DATA aa,86,d6,07,77,23,0b,78,32a
2270 DATA b1,c2,4e,76,c3,5f,76,01,3d0
2280 DATA 8e,7f,ed,49,01,8e,7f,ed,43e
2290 DATA 49,3a,f8,78,fe,f3,ca,71,51f
2300 DATA 76,21,00,c0,11,00,c0,01,229
2310 DATA 32,00,ed,b0,21,6d,a3,01,301
2320 DATA f4,04,16,2b,ed,5f,aa,86,3b5
2330 DATA d6,07,77,23,0b,78,b1,c2,36d
2340 DATA 84,76,c3,95.76,21,00,c0,3a9
2350 DATA 11,00,c0,01,64,00,ed,b0,2d3
2360 DATA 21,8f,a3,01,d2,04,16,21,261
2370 DATA ed,5f,86,92,77,23,0b,78,381
2380 DATA b1,c2,a8,76,c3,b7,76,21,4a2
2390 DATA 00,c0,11,00,c0,01,64,00,1f6
2400 DATA ed,b0,21,c3,a3,01,9e,04,3c7
2410 DATA dd,21,c3,a3,dd,21,c3,a3,4c8
2420 DATA 11,1c,00,11,1c,00,ed,5f,1a6
2430 DATA dd, ac,96,dd,ad,77, 23, 0b,
     44e
2440 DATA 78,b1,c2,e8,76,c3,eb,76,56d
2450 DATA c3,d6,76,21,00,c0,11,00,301
2460 DATA c0,01,20,00,ed,b0,31,fa,3a9
2470 DATA 76,ea,0f,77,21,e6,a3,11,3a1
2480 DATA d1,a3,01,7b,04,ed,5f,ae,3ee
2490 DATA 77,ed,a0,1b,e0,18,f6,21,42e
2500 DATA 00,c0,11,00,c0,01,64,00,1f6
2510 DATA ed,b0,21,02,a4,01,5f,04,2c8
2520 DATA ed,5f,86,77,23,0b,78,b1,3a0
2530 DATA c2,20,77,c3,2e,77,21,00,2e2
2540 DATA c0,11,00,c0,01,64,00,ed,2e3
2550 DATA b0,01,3d,04,31,5f,a8,d1,2fb
2560 DATA ed,5f,aa,57,d5,3b,0b,78,3e0
2570 DATA b1,c2,3f,77,c3,4f,77,21,3d3
2580 DATA 00,c0,11,00,c0,01,64,00,1f6
2590 DATA ed,b0,01,1c,04,31,5f,a8,2f6
2600 DATA d1,ed,5f,aa,57,d5,3b,0b,439
2610 DATA 78,b1,c2,60,77,c3,70,77,46c
2620 DATA 21,00,c0,11,00,c0,01,64,217
2630 DATA 00,ed,b0,21,66,a4,01,fb,3c4
2640 DATA 03,16,66,ed,5f,86,92,77,35a
2650 DATA 23,0b,78,b1,c2,83,77,c3,3d6
2660 DATA 92,77,11,ea,03,21,77,a4,343
2670 DATA 34,23,1b,7a,b3,c2,98,77,370
2680 DATA c3,a3,77,21,00,c0,11,00,2cf
2690 DATA c0,01,64,00,ed,b0,21,96,379
2700 DATA a4,01,cb,03,ed,5f,ae,77,3e4
2710 DATA 23,0b,78,b1,c2,b4,77,c3,407
2720 DATA c2,77,01,8e,7f,ed,49,01,37e
2730 DATA 8e,7f,ed,49,3a,f8,78,fe,4eb
2740 DATA f3,ca,d4,77,21,00,c0,11,3fa
2750 DATA 00,c0,01,32,00,ed,b0,21,2b1
2760 DATA cc,a4,01,95,03,16,6d,ed,379
2770 DATA 5f,aa,86,d6,07,77,23,0b,311
2780 DATA 78,b1,c2,e7,77,c3,f8,77,57b
2790 DATA 21,e8,a4,01,79,03,16,20,260
2800 DATA ed,5f,ae,aa,77,57,23,14,3a9
2810 DATA 0b,78,b1,ca,11,78,c3,00,34a
2820 DATA 78,21,00,c0,11,00,c0,01,22b
2830 DATA 64,00,ed,b0,21,06,a5,01,2ce
2840 DATA 5b,03,ed,5f,86,77,23,0b,2d5
2850 DATA 78,b1,c2,22,78,c3,30,78,3f0
2860 DATA 01,8e,7f,ed,49,01,8e,7f,352
2870 DATA ed,49,3a,f8,78,fe,f3,ca,59b
2880 DATA 42,78,21,00,c0,11,00,c0,26c
2890 DATA 01,32,00,ed,b0,21,3c,a5,2d2
2900 DATA 01,25,03,16,00,ed,5f,aa,235
2910 DATA 86,d6,07,77,23,0b,78,b1,331
2920 DATA c2,55,78,c3,66,78,01,8e,3bf
2930 DATA 7f,ed,49,01,8e,7f,ed,49,3f9
2940 DATA 3a,f8,78,fe,f3,ca,78,78,555
2950 DATA 21,00,c0,11,00,c0,01,32,1e5
2960 DATA 00,ed,b0,21,72,a5,01,ef,3c5
2970 DATA 02,16,2e,ed,5f,aa,86,d6,398
2980 DATA 07,77,23,0b,78,b1,c2,8b,322
2990 DATA 78,c3,9c,78,21,00,c0,11,341
3000 DATA 00,c0,01,64,00,ed,b0,21,2e3
3010 DATA a6,a5,01,bb,02,dd,21,a6,3ad
3020 DATA a5,dd,21,a6,a5,11,1c,00,31b
3030 DATA 11,1c,00,ed,5f,dd,ac,96,398
3040 DATA dd,ad,77,23,0b,78,b1,c2,41a
3050 DATA cd,78,c3,d0,78,c3,bb,78,546
3060 DATA 21,00,c0,11,00,c0,01,20,1d3
3070 DATA 00,ed,b0,31,df,78,ea,ff,50e
3080 DATA 78,21,c9,a5,11,b4,a5,01,372
3090 DATA 98,02,ed,5f,ae,77,ed,a0,498
3100 DATA 1b,e0,18,f6,00,00,00,84,28d
3110 DATA 4c,a4,48,4c,46,03,89,01,257
3120 DATA 8e,7f,ed,49,01,8e,7f,ed,43e
3130 DATA 49,3a,f8,78,fe,f3,ca,11,4bf
3140 DATA 79,21,00,c0,11,00,c0,01,22c
3150 DATA 32,00,ed,b0,21,fc,a5,01,392
3160 DATA 65,02,16,3b,ed,5f,aa,86,334
3170 DATA d6,07,77,23,0b,78,b1,c2,36d
3180 DATA 24,79,31,f8,bf,21,00,a3,349
3190 DATA 22,b6,a6,21,49,79,11,00,272
3200 DATA a3,01,5f,00,ed,b0,c3,4c,3af
3210 DATA a6,f3,01,8c,7f,ed,49,21,3fc
3220 DATA 02,20,11,00,00,01,00,80,0b4
3230 DATA ed,b0,21,25,a3,11,60,4a,341
3240 DATA 01,3a,00,ed,b0,21,60,4a,2a3
3250 DATA 22,20,00,c3,00,00,21,7c,1a2
3260 DATA 4a,11,00,45,01,15,00,ed,1a3
3270 DATA b0,3e,c3,21,01,45,32,fe,348
3280 DATA 45,22,ff,45,3e,00,cd,91,347
3290 DATA 30,c9,ff,3e,c9,32,ef,47,467
3300 DATA 3e,18,32,36,27,22,85,ba,246
3310 DATA ed,5b,fa,45,c3,02,46,00,392
3320 DATA ATLAST!
```

This progette is checksummed, and almost guaranteed to cause a power failure to occur in your neighbourhood while you're typing it in! Things can be speeded up slightly by using AUTO to supply the line numbers, and by using the command KEY 11,CHR$(13)+"DATA". This redefines the small enter key to provide a new line, and then puts the word "DATA" after the line number provided by the AUTO command. Don't forget to save it, will you ?

Well, that wraps it up for this month. I'll leave you with a little gem circulating about the office, defining the word "editor": A person who separates the wheat from the chaff, and ensures that only the chaff is published. Bye-bye from the chaff!

Luv 'n' stuff, Vax, Suz & the Brats.

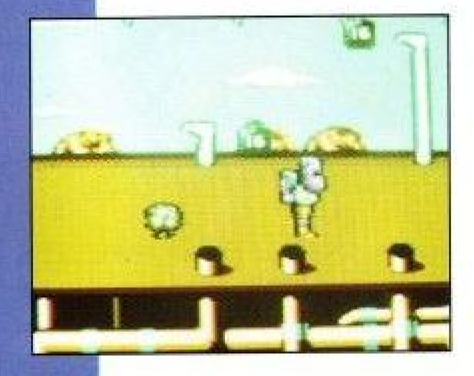


1	(2)	Pro Boxing	Code Masters
2	(1)	Fantasy World Dizzy	Code Masters
3	(4)	Paperboy	Encore
4	(NE)	Italy 1990	US Gold
5	(6)	World Cup Soccer '90	Virgin
6	(NE)	Football Manager World Cup	Addictive
7	(7)	Jack The Nipper 2	Kixx
8	(3)	Temple Of Doom	Kixx
9	(NE)	Big Trouble In Little China	Alternative
10	(9)	Rock Star	Code Masters
11	(15)	Quatro Sports	Code Masters
12	(NE)	Vindicator	Hit Squad
13	(5)	Manchester United	Chrysalis
14	(NE)	Daley Thompsons Super Test	Hit Squad
15	(8)	Football Champions	Cult
16	(17)	World Soccer League	E&J Software
17	(14)	Road Blasters	Kixx
18	(13)	Dragons Lair	Encore
19	(12)	Thomas The Tank Engine	Alternative
20	(NE)	World Cup Challenge	Players

Last month's position in brackets
Top 20 compliled by Gallup

This month the ACU team goes totally loopy as Phython mania takes a grip, dares to take on the Mob in Vendetta and takes a kick or two from the Shadow Warriors on the mean streets of an American metropolis.

GAMEPLAN



MONTY PYTHON

Join in the epic Spam race as Mr Gumby attempts to retrieve his missing brain



VENDETTA

Take to the streets in your Ferrari F40 and fight for your life against the evil Syndicate



SHADOW WARRIORS

Battle for justice as the ancient secrets of the Ninjitsu assasins hit the streets of America

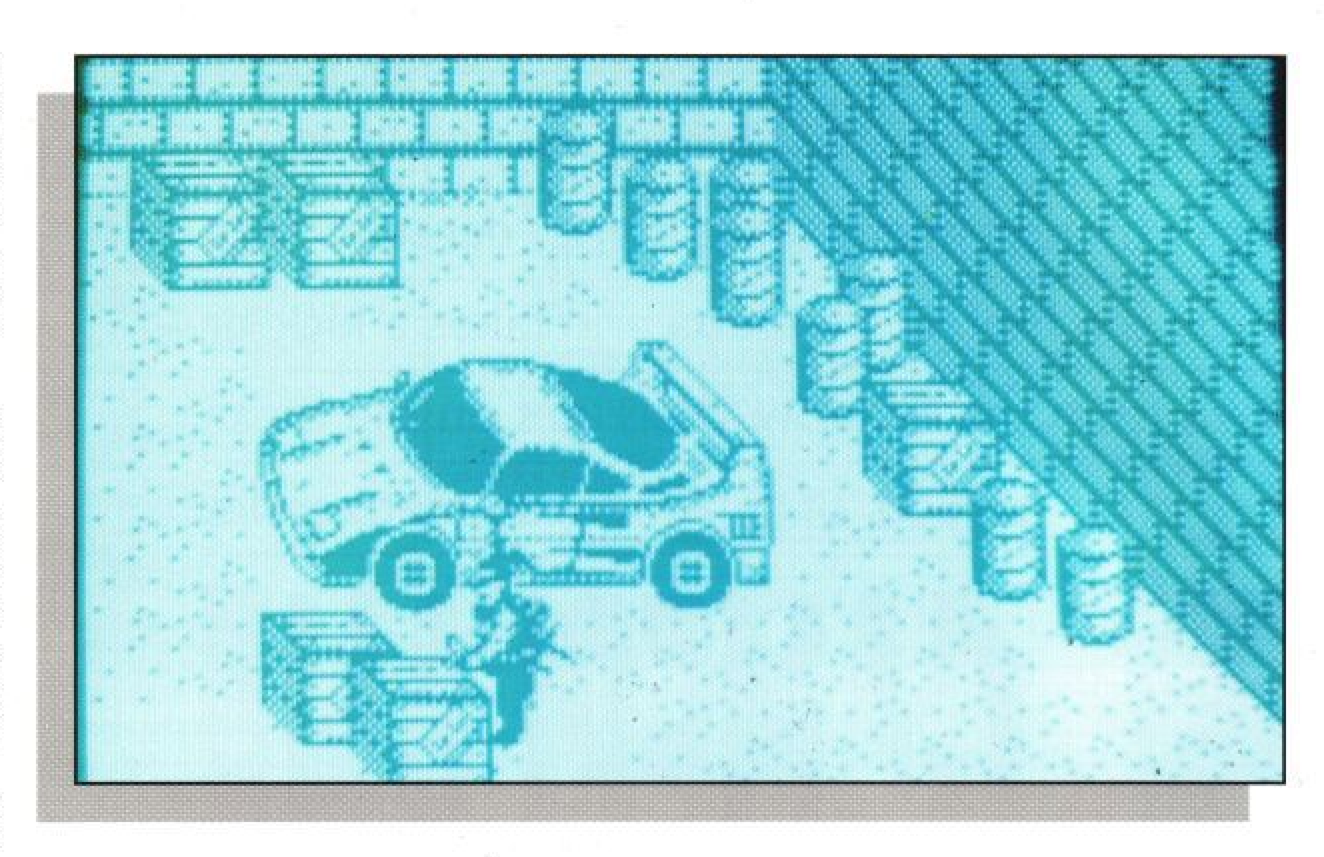
PLUS

If you're still short on action, take out Robot Monsters and International 3-D tennis for a trial run before catching up with the latest budget explosions in town.

The cops can't cope with it. The CIA or FBI? Forget it. This is a job that you and you alone must tackle, a job where death would be infinitely better than failure, a job where failure would mean a lifetime of hell.

Coming back from 'Nam, you look for a hero's welcome. You've forgotten count of the desperate missions you undertook to save your combat comrades from death, the times when you risked your life to save the skins of the general's who sat smugly behind the lines directing operations.

But you have become too powerful for these men; a lowly combat soldier should never be seen to be bigger than the Big Boys. So, what do you get? Nothing. If it wasn't for the help of your brother, the professor, your life would be one long story of police harassment and misfortune.





Vendetta

Fight for family honour against the crimelords of the East.

Now, however, it's all gone wrong. The professor and your beautiful niece have been kidnapped, and who's behind it? The self-same terrorist group you thought you'd busted back in Saigon.

Donning your combat gear, you're going back into battle, but this time it's personal – this time it's a vendetta!

That's the name of the game, and there's a fair amount of action to it as well. The terrorists are after the professor's secret weapons formula, and if they don't get it, your kin is in for the chop. You've got to get out there, pick up the trail and snuff them out before time runs out – one hour to be exact.

Keep your eyes open for clues, necklaces, ties etc.., and examine everything you come across, you never know what you'll find.

Early in the game, make sure you find the weapon card to go along with the sleek Ferrari F40, you'll be using it to do a lot of your chasing and it's no good without the extras.

There are also other goodies to be had, such as bullet-proof vests, weapons and crow bars to gain access to those tricky little cases.

When taking on the terrorists, a few quick stabs with your knife should do the job to start with, but don't worry, they get tougher.

To start with, getting used to the joystick movements is an advantage. The game is highly interactive with plenty of movements to perform throughout. Keep a record of what happens on each level as well, there's plenty of adventure to be had and you'll need the know-how to do better next time.

Although the graphics are excellent, they could have been a little more colourful, with the sonix being a little tame to start with. Scrolling is a little jerky, but in true System 3 style, the action/adventure more than compensates.

You'll do exceedingly well to win back your family on the first few attempts, while for lasting attraction, once you've mastered a certain routine, you'll want to keep going back to show off your skills.

If it's bright lights and blasting you're after, think again, but if you're into lasting gameplay with plenty of cunning, you're in for a treat with Vendetta.

John Taylor

ROUND-UP			
NAME	Vendetta		
FROM	System 3	PRICE	Disc £14.99 Cassette £9.99
72%	70%	84%	
GRAFFIX	SONIX	PLAYABILITY	VERDICT

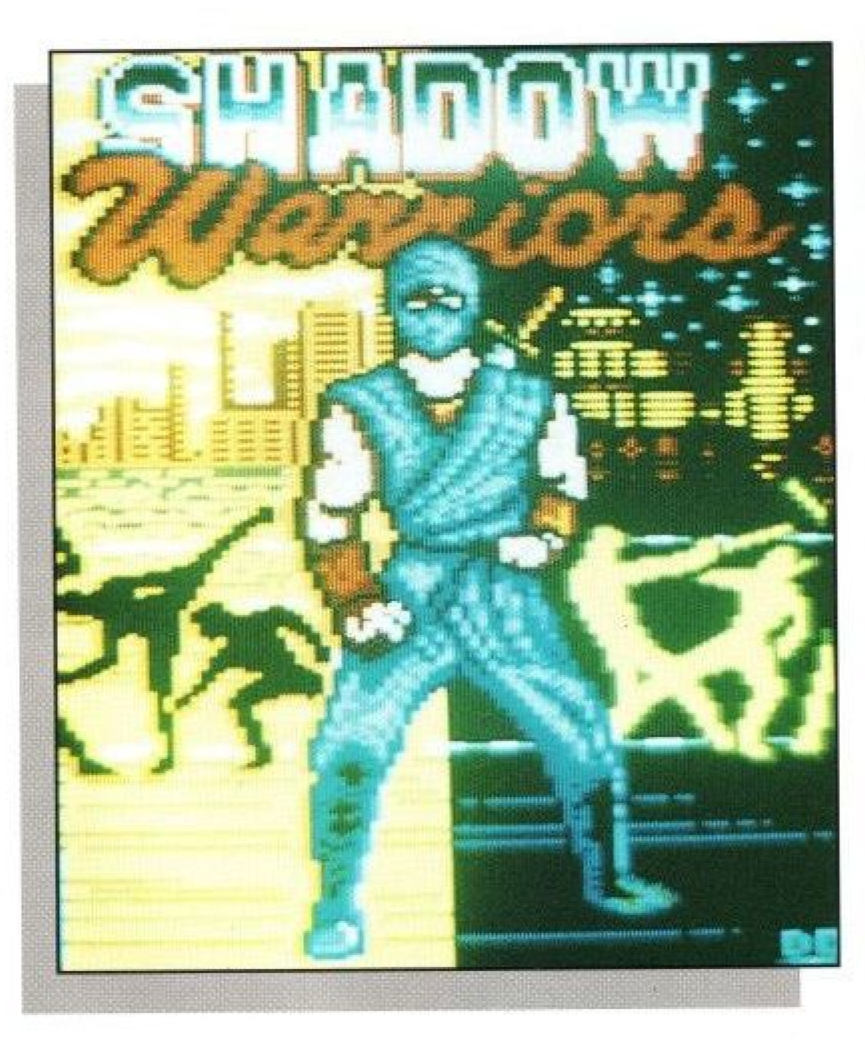
In the backstreets of a chaotic American city you have yet another chance to save the world from impending disaster. While most people are safely locked up at home, you, the Shadow Warrior, last in a line of legendary combatants are out doing your bit for American peace and justice.

This time the enemy is a possessed Oriental demon who has summoned a squad of ghoulish assassins to wreak havoc on innocent people. Oriental Combat is a well tested format, however the



levels in all, each different, but all depicting twentieth century America at its most violent. Naturally, you meet the 'evil Demon' at the end who is the meanest dude of them all.

Scrolling is horizontal with reasonably smooth and colourful graffix. However, one frustrating aspect of the game is the fact that whoever gets the first punch in usually wins the combat, and it is almost impossible to do anything when two of them start roughing you up. Ocean have given a warning not to



SHADOW WARRIORS

Take on the forces of the evil Demon-Ninjitsu style.

hero can perform five death-defying feats: the Triple Blow Combination, the Flying Neck Throw, the Hang Kick, the Phoenix Backflip and the Tightrope technique!

Unfortunately, how one actually performs these manoeuvres is not given in the instructions, but after a few games and a bit of luck you'll be swinging from a signpost, then somersaulting on top of a building before despatching another baddie.

It takes several blows to knock an assasin out and even more to keep him down. Each level brings you up against meaner and larger thugs, and at the end of each level you meet 'The Guardians', who are even meaner and bigger. There are six

let two of the assasins get on either side of you, but this is much easier said than done. The best way of dealing with thugs is to shut your eyes, hold down the fire button and let the 'force' flow through you.

Along the way you can pick up various unimaginative objects from a small ruby to a large ruby, or a red pill to a blue pill! You may even be lucky enough to find a sword hidden in a trash can or telephone booth. However, the sword does just as much damage as your fists against the fatter thugs – not a lot!

Shadow Warriors is all right for those of you who are looking for some mindless thuggery Oriental style.

Mark Preskett

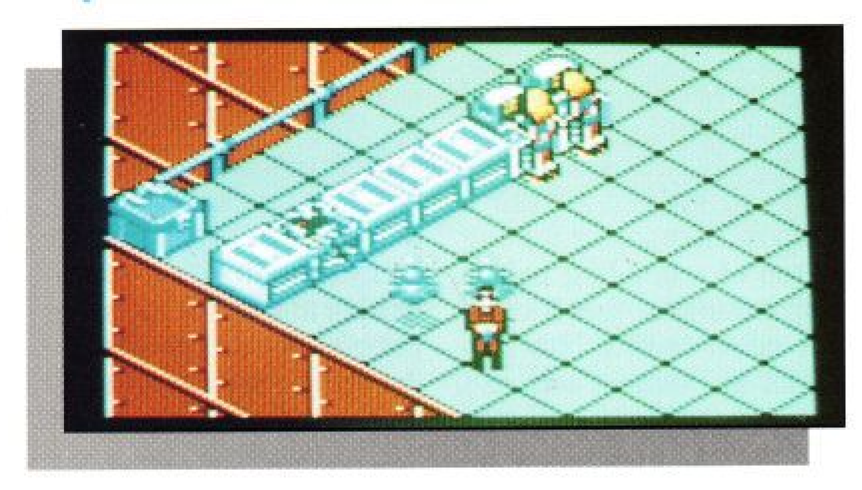
ROUND-UP

NAME	Shadow Warriors		
FROM	Ocean	PRICE	Disc: £14.99 Cassette: £9.99
75%	68%	76%	
GRAFFIX	SONIX	PLAYABILITY	VERDICT



ROBOT MONSTERS

Save the lovely ladies from a fate worse than death at the hands of the Reptilons.



This is Radio Smog bringing you all the news, every hour on the hour.

The fate of Professor Sarah Bellum and a number of her female companions is still at stake on the mysterious Planet X. Following the kidnapping by evil Reptilons late last week, several attempts to break into the alien warehouses upon the surface of the planet have so far met with failure.

Special reports leaked from within the headquarters of the Evil Reptilon by allied agents, show the female hostages are being used, along with professor Bellum's scientific knowledge, to construct a robot army to be used in the destruction of our own planet.

How close to completion this army is, is not known to us at this time, but the latest surveillance reports show unprecedented activity around the Reptilon launch pads.

The likelihood of this ominous attack rests solely in the hands of those mounting one last ditch effort to rescue the hostages, due to take place some time today. Good luck fellas, the fate of the world is in your hands.

This may be our last report, so this is Radio Smog signing off, in hope.

Well, it's up to you. Can you save the world in what must be one of the best shoot-em-ups for a long, long time?

Escape from the Planet of the Robot Monsters is a two player simultaneous rescue mission, which will see you as either Jake or Duke battling your way through the robot factories of the Reptilons in a desperate bid to free the hostages before they are turned into Robo-Zombies.

On your way, you will need to break into food and bomb lockers to get special weapons which makes doing away with the Reptilon guards even more fun.

Once the scaly beasts are despatched with, some of them will leave behind pretty green crystals. Pick these up and you'll find yourself with even more firepower to do away with the big bad scaley-bug at the end.

Moving around the excellent on-screen graphics, walking into the hostages will send them packing on the next shuttle back to your mother ship, although some are tougher to get to than others. Blowing up the computer consoles scattered around the arena should help to shatter the glass cages surrounding the more important hostages.

Movement between levels is by way of nifty escalators, which will need to be activated before you can trundle up and down; find the lever and give it a nudge and you're away.

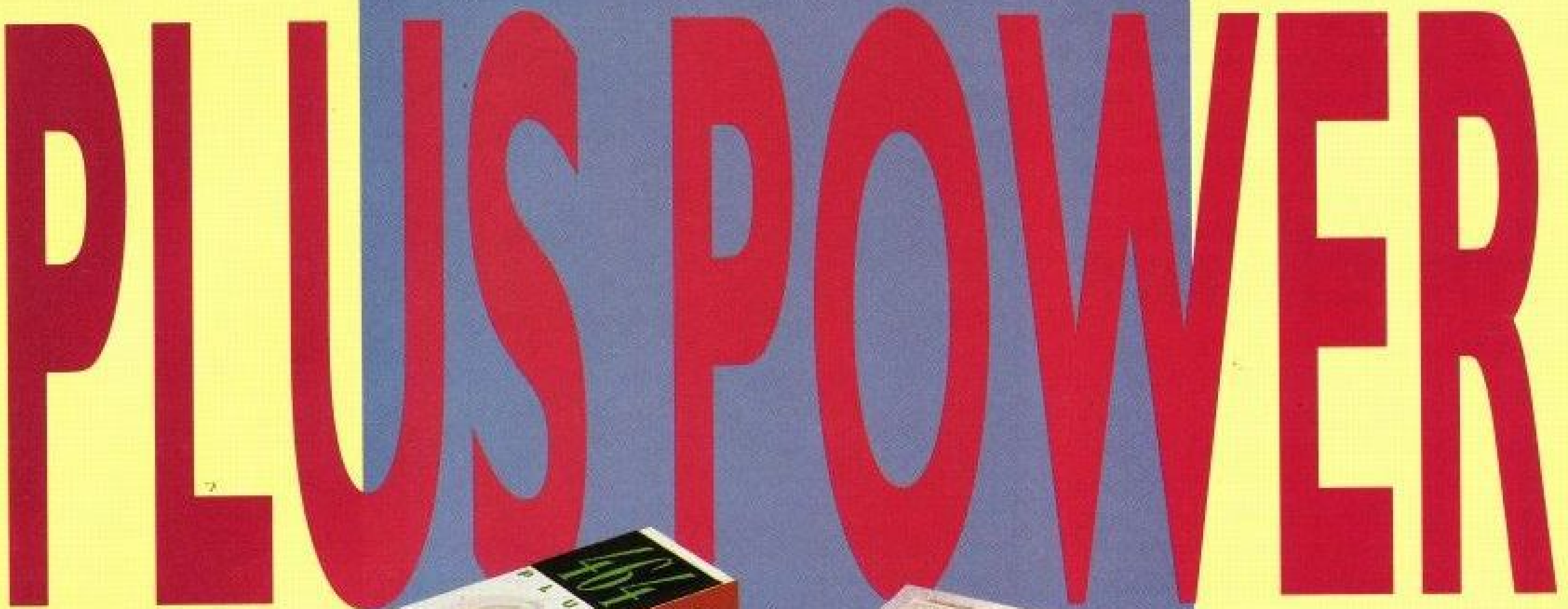
At the end of each factory, you will see a bonus screen which will tell you just how well you've done on the hostage front. Fill a full shuttle load and you get an extra bar of energy – a very much needed bar of energy.

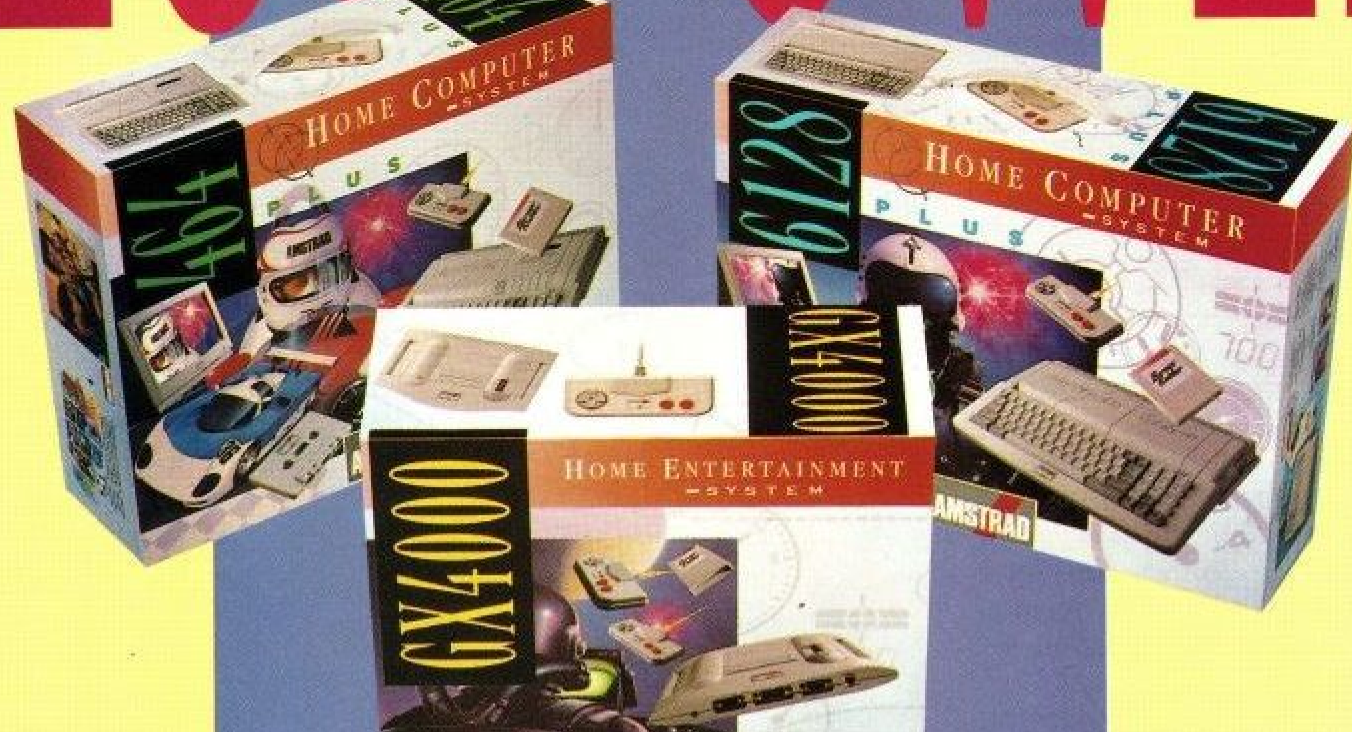
There are some exceptional sonix accompanying this smooth scrolling extravaganza, and the gameplay, as you blast ugly looking aliens of all size and station, is totally addictive.

If you're after mindless fun and something that will keep you glued to your screen til the bitter end, look no further than the challenge laid down by the Reptilons.

John Taylor

ROUND-UP			
NAME	Robot Monsters		
FROM	Domark	PRICE	Disc £14.99 Cassette £9.99
86%	82%	88%	JACKPOT
GRAFFIX	SONIX	PLAYABILITY	VERDICT





The new CPC range is here at last. Hold onto your hats as the ACU team takes the lids off of the 464 Plus, the 6128 Plus and the superb GX4000 games console in our no-holds-barred look at these new additions to the Amstrad fold.

CONSOLE CRAZY

Anyone who fancies themselves as a hot gamesplayer should not be without the fantastic GX4000 console. Now, courtesy of those awfully generous people at Amstrad, you don't need to be.

Just answer the incredibly simple question below and you could be the lucky winner of the console and a burnin' Rubber cartridge.

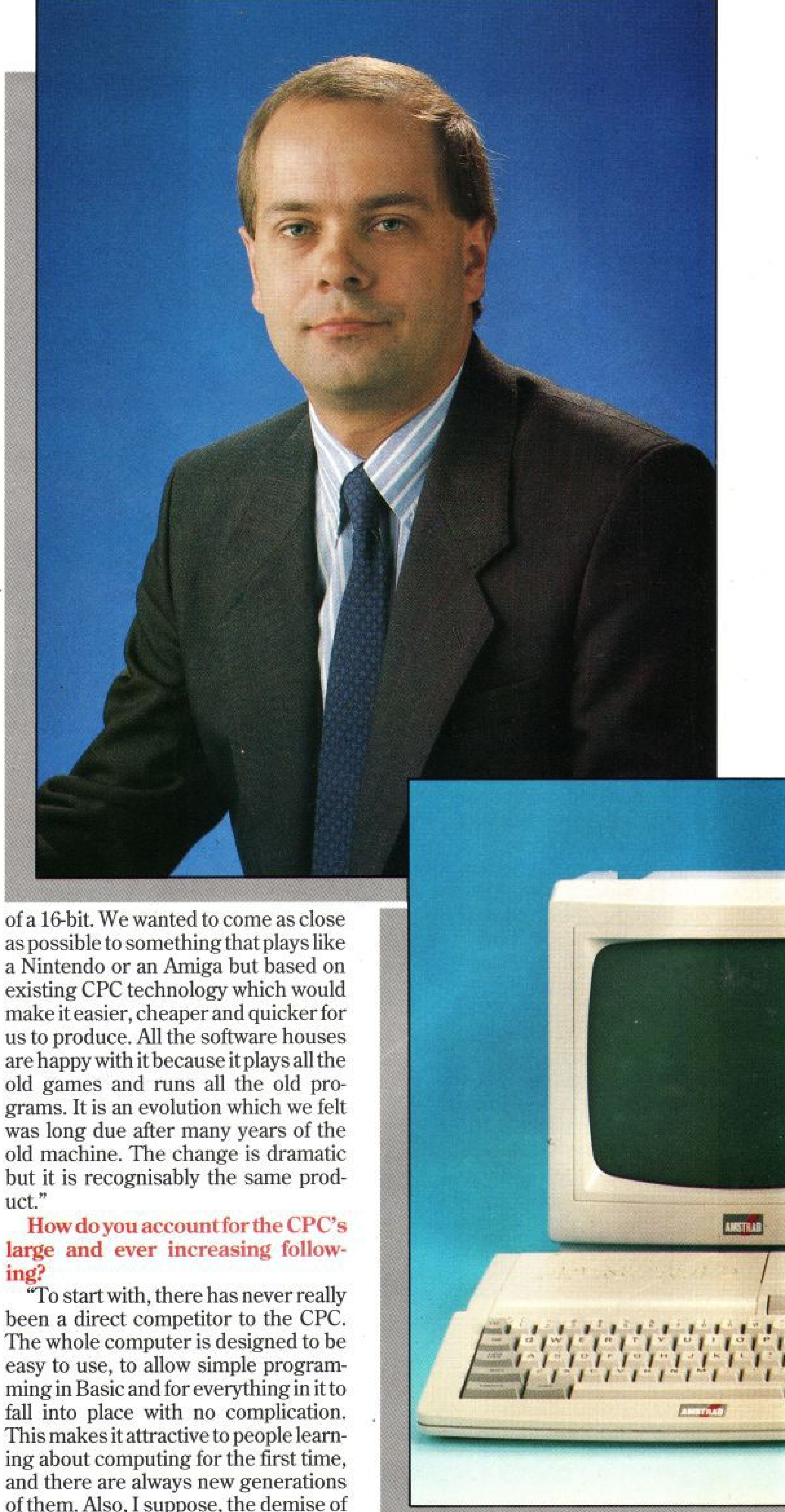
In what year did the original CPC machines first hit the streets?

Send your answers to:
Console Crazy, ACU, MSM Ltd.,
116-120 Goswell Road,
London EC1V 7QD.

Now read on and find out all the low-down on the best new machines on the market.

One man and his machine

Guy Mathews has a quiet word with the brains behind the new CPC's, Roland Perry.



The CPC is the Queen Mother of computers. It has outlived many of its early contemporaries, it is still capable of many useful functions and it remains unaccountably popular with the ordinary man on the street. It is the machine that helped to launch Alan Sugar on his computing oddysey and it remains one of his best selling products many years later, in spite of its relatively lowly status. The machine has now had continued longevity assured by Amstrad with the emergence of an upgraded version. To find out more about this new machine and to discover the secret elixir that keeps the CPC so youthful, Amstrad Computer User met Roland Perry, one of the CPC's original creators and one of the masterminds behind the new version.

What, I asked him, is the idea of the new machine?

"We wanted to relaunch the old machine with better facilities. Our idea was to produce an 8-bit machine with as much as possible of the functionality of a 16-bit. We wanted to come as close as possible to something that plays like a Nintendo or an Amiga but based on existing CPC technology which would make it easier, cheaper and quicker for us to produce. All the software houses are happy with it because it plays all the old games and runs all the old programs. It is an evolution which we felt was long due after many years of the old machine. The change is dramatic but it is recognisably the same product."

How do you account for the CPC's large and ever increasing following?

"To start with, there has never really been a direct competitor to the CPC. The whole computer is designed to be easy to use, to allow simple programming in Basic and for everything in it to fall into place with no complication. This makes it attractive to people learning about computing for the first time, and there are always new generations of them. Also, I suppose, the demise of the classic BBC Micro has meant that

people who once bought that as a machine to learn about computers on now buy the CPC. Lots of people, young and old, who have traditionally been put off computers because they were frightened of the complexity and the price, look at the CPC and see that it is simple to use and cheap. In the computer industry it is possible to become brainwashed and think that you have to come up with something new and wonderful every six months, but life is not like that. In real life you find a plateau of mass market acceptance for a product, which we have managed at one stroke with the CPC.

"With the CPC, as with the PCW, nobody has ever brought anything better out, for some unaccountable reason. When the 464 came out, the Tatung Einstein had just been announced, Acorn were still the leaders in the home market, Sinclair was in there fighting, Commodore was about to bring out the Plus 4 and many other machines were rumoured to be on the way. All that has faded away miraculously, leaving the CPC centre stage. Apart from the ST and Amiga, which have slightly confused identities as to whether they are business or home machines, nobody has brought out a home computer since then."

So why a new machine?

"We have not improved the basic architecture of the CPC because there is no reason to as it is all there and it all works. But because we have consoles nibbling away at its market from one end and more expensive machines like Amigas nibbling away at the other and competition from arcade games we have had to offer a bit more. We have improved the sound chip to save time for programmers to spend on graphics, added a few more colours and some sprites. The light gun now has a dedicated socket. We have also added a raster interrupt so at any one line down the screen you can stop and service the interrupt, perhaps reloading the sprites. Now sprites can change colour as they go down the screen, which was possible but very hard work before. Games titles for our machine are never going to be number one sellers because there are more 64s and Spectrums. But the new machines give programmers some extra scope.

"There was a debate as to whether we should make the new 6128 with a 3½ inch drive, as seems to be the norm with other machines. The hobby which favoured compatibility with the old machine won. People sometimes ask why we don't do things like put in a six megahertz processor instead of a four. Then it could not be used with a normal TV set. Part of the elegance and simplicity of the original design is the way in which the scan rates and clock movements are all linked together perfectly, so why change? You could add all sorts of extras and end up getting away from the philosophy of cheap simplicity."



Did you take much advice from software programmers when designing the new machine?

"Certainly. For example they pointed out to us that games were becoming much more spritey, with lots of large characters moving about the screen, made by adding lots of sprites together. The software houses like the new features of the machine. The sound generator now allows easy digitised speech, which gives them a new dimension."

How much of a future has the CPC got?

"If you look at the Mini car, it is thirty years old and it still works as well as it did thirty years ago. Like the CPC, the Mini is very user friendly, is very cheap and cheerful and it introduced lots of people to motoring. I see no reason why there should not be a CPC around in ten years time unless the market for a general purpose entry level family computer changes and products like the Amiga become more user friendly and cheaper. I believe the price will probably stay the same for many years, which means it will become cheaper in real terms. Rather like the price of a colour television has been around the £200 mark for many years. If we ever stopped producing the CPC there would be an uproar with questions asked in Parliament and people rushing out to buy the remaining stocks. There are always rumours around that we are going to kill the CPC off but if they were true there would not be much doubt about it. If the story is in rumour form then it is not true. In the whole time that Amstrad has been in computers, about six years, we have only withdrawn two machines, the 664 and the hard disc version of the 1512."

How have retailers responded to the new machine?

"They have been very keen. We are supporting it with a demonstration unit which looks a bit like a jukebox which will go in the shops and allow customers to sample the games. Retailers have responded well to this. There was a time it seemed as though every shop you went into sold CPCs and it is still easy to get hold of one."

Get it on tape

First up on Dr. Dorn's microscope slide is the entry level 464 Plus.

And so to the new CPC464+, which Amstrad are aiming at the entry-level computer market. As you can see from the photograph, it would be difficult to recognise it as a CPC machine – indeed, there will be many parents who become confused between it and an Amiga come Christmas in Dixons, even if the cassette door is left open. But do new clothes make the machine?

In essence, not many changes have taken place in the CPC464 that first saw light in April of 1984. The edge connectors along the back of the grey slab have been replaced with new sockets, true. The printer port is now a full 8 bits wide, instead of the miserly 7 bit wide port that once was – also true. The expansion disc drive socket no longer exists – users are limited to loading standard CPC programs from cassette only – a shame, but also true. And the full functionality of the GX400 has been added, complete with twin games paddle ports, analogue joystick port, auxiliary port and cartridge port.

I hear rumblings of 'But he said there weren't many changes', and there aren't. The 464 remains a 464, and the games cartridge additions remain games cartridge additions – the machine does not make the extended pallette, sprite handling, enhanced sound capabilites, or hardware scrolling available to either the Basic or Machine code programmer – they are reserved for Cartridge games only.

As such, what you get in a 464+ is a 464+GX400-disc drive expandability. If you want a disc drive, you must buy a CPC6128+ – more on this later.

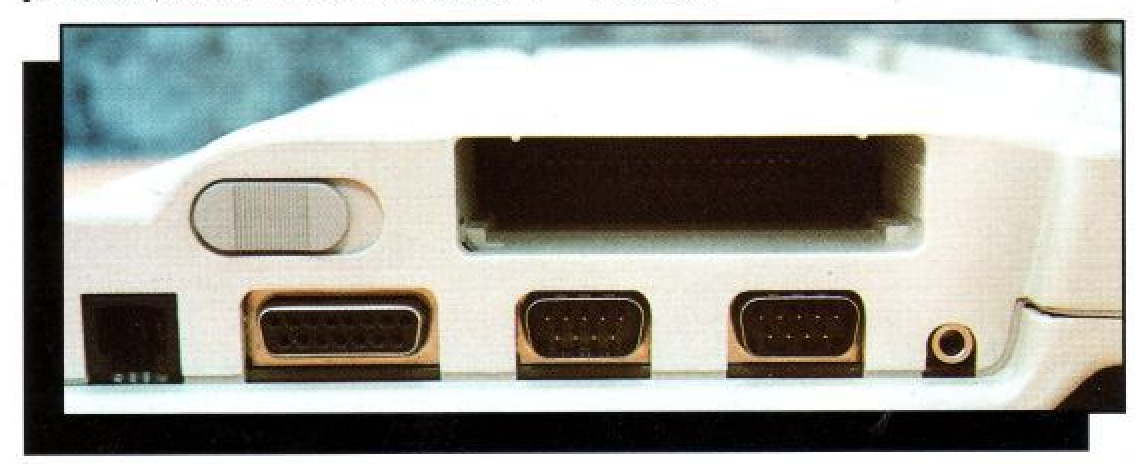
The changes to the edge connectors along the back of the machine, plus the way that the firmware has changed have caused very few problems of compatibility – certainly far fewer than might reasonably have been expected. It is true to say that existing peripherals will need an adapter between the 50 way Centronics type expansion port and their 50 way card edge connectors, but once this is achieved, the majority of peripherals will behave well. Those that don't are those that make direct access to undocumented routines in the old ROMs.

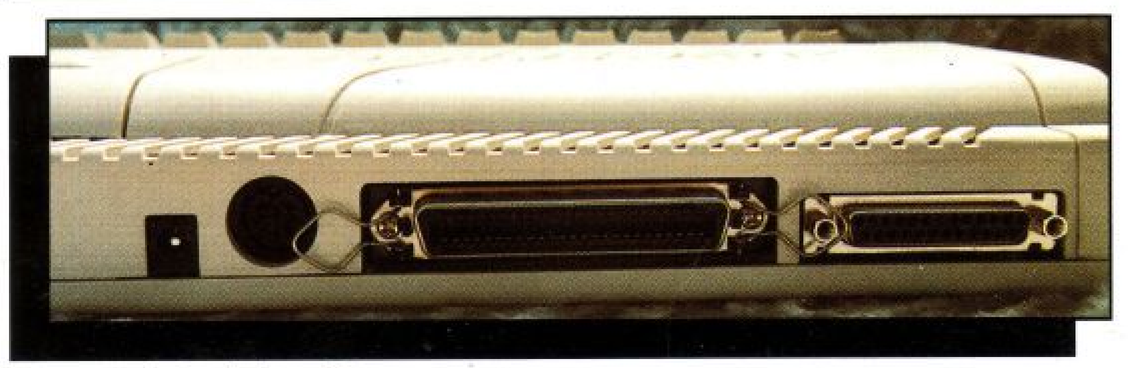
As I write this, Amstrad technical wizard Cliff Lawson is busily burying his head in the code within affected peripherals and some software products (the total number of which is less than double figures) to unearth the necessary fixes to allow them to work. He explained to us that Amstrad had gone to great lengths to avoid compatibility problems, even to the extent of retaining often used undocumented calls, when the firmware was updated to allow for the cartridge system to be added to the machines. That there are so few compatibility problems is a testament to this dedication.



How does the, machine handle? Well, I've had the pleasure of playing with it and the new colour monitor, and I've got to say that if actually feels very different from its forerunner. For a start, the livery is much prettier, and I'm over the moon that those glaring coloured keys have finally bitten the dust. On the subject of keyboards (and they're very subjective at the best of times) I think that the new unit has an altogether more spritely feel about it – it seems to be more 'clicky', and less 'puddeny'. The tactile feedback is better, in other words (and to use more correct English). If I'm not much mistaken, the keyboard is derived from the PC2000 range, which isn't too bad a pedigree.

As for the new colour monitor, I stood it side by side with my older CTM644, and certainly noticed a difference. This isn't exactly surprising, considering that the older monitor is getting on for four years old, and has seen some electrons hit its phospors in its time. However, the new unit certainly looks a sight better than the old one – more 'professional'. Now, turn to the 6128+ review, and read on further before taking in the whole effect on the analysis page.





Photography by Andrew Banner.

Disc users tune in as the 6128+ takes its place on the starting grid.

Top of the Heap

The top of the range machine is the new CPC6128+, destined to compete with Commodore's Amiga 500 and Atari's ST and STE range. Amstrad have decided that theses are the 'games machines' that lead the market, and so that's where the 6128+ is headed. We'll discuss this a little further in the last page of this pull-out.

As you may have gathered from the previous page, very little in the way of significant change has taken place in the good old 6128 as we know and love it. The new machine acts like it always did, plays the same games, runs the same software (with certain exceptions, ie. unless undocumented calls to the disc ROM are made), but looks totally different – a case of the Emperor's New Clothes, perhaps?

Well, no, not really. For a start, the keyboard, like the 464 unit (with which it is identical) has a much better feel to it, and looks a lot nicer. The new layout puts the disc drive on the right hand side – again like the Amiga and ST with which it competes. Now, for some reason, this isn't an arrangement I find particularly pleasant, especially when the drive busy light is placed on the drive casing itself. I can't say that this was the most thoughtful of placings – why not stick the LED on the top surface, where it can be seen without craning the neck??

Still, this arrangement hasn't harmed the competition, so there it stays. And what about the 8 bit printer port?? I'm over the moon about that – I always thought that a 7 bit port was stingy in the extreme, and have been plagued by the 'pin 14' syndrome for ages. Even that little foible has been cured now – it's tied low, instead of having been left floating. Three cheers all round. The port also has a standard IBM type connector, which is good news for everybody – you can pick up a standard printer lead for a couple of quid at shows, and not a great deal more at shops. It ought to make the port more reliable, and less prone to interference from stray radiations from TVs and monitors and suchlike.



Photography by David Dorn.



The expansion port may cause one or two problems for some folks, though. To use existing peripherals, an adapter needs to be made up – see Applications Advice for the instructions – until peripherals manufacturers decide to change the connectors on their devices. Once they do, everything will be much more secure than previously. The 50 way Centronics type connector is a much more solid housing for RAM packs, Silicon Discs and sundry other bits and bobs that hang off the back of CPCs the world over. The same thing applies to expansion disc drives. The new connector is a much more solid job – and you can't put the plug in the wrong way up any more, either. Changing an existing lead is a doddle, using IDC Centronics connectors – again see Applications Advice.

However, there are one or two problems. RAMDOS and ROMDOS, for instance, access undocumented routines in the disc ROM, and they've moved. Hence, KDS, assisted by Cliff Lawson at Amstrad, are presently revamping the code to make them work with the new machines. RODOS appears to work correctly, but, as we go to press, I've not had the chance to delve all the way into that particular utility.

Other ROMS that don't seem to want to know include the Graduate CP/M ROMs – keep your eyes on future Applications Advice columns for more information as we unearth it. Happily, any application or utility that sticks to documented entry points will work without problems – thus far I've run around sixty different programs and games, and had problems with only two games, and, of all things, Siren Software's Discology, which I more or less expected would be the case.

Brunning Software's excellent word processor family is also affected by the changes in the firmware, but Peter Brunning is already aware of the problems, and has taken steps to rectify them. No doubt he'll be making an announcement about CPC6128+ Brunning programs in due course (in fact I KNOW he will be)

So, the new machine gains a cartridge port, and all the functionality of the GX4000, but loses the ability to work with cassettes. I have no doubt in my mind that someone will come up with a workaround for the cassette side of things, but then I've long advised people not to bother with cassettes – nasty slow unreliable things!

Next up, the GX4000.

The shape of things to come

Last but not least – the GX4000

This futuristic-looking machine is as neat as one could wish for in a unit intended primarily to take over the family television. Clad in cream beige, it fairly bristles with ports and sockets, and certainly looks the high-tech part. A quick guide round the various ports will give you some idea what's in store for the prospective purchaser.

The front panel houses two digital joystick sockets – standard nine pin D-sub connectors – which look as if they ought to accept standard Atari type joysticks. Be warned!! The GX400 supports TWO fire buttons, and, in fact, with its supplied cartridge (Burnin' Rubber) needs both of them. The two game paddles supplied provide all the necessary signals, but, in common with most such units, lack tactile feedback. They're suitable for steering a car round a circuit, but sport a direction pad that is perhaps a touch small for many people (or maybe this reviewer should trade his banana fingers in for smaller models!)



Between the two games paddle ports lies an analogue joystick socket, much the same as you'd find on any self respecting IBM PC compatible games card. Unfortunately, as we go to press, no cartridges which can take advantage of this port are available, so its efficacy remains to be seen. However, access to analogue input is a definite advantage – control via such a stick is almost always more precise, and we look forward to sampling games which take advantage of it.

To the left of these three ports sits a stereo output jack socket, for connection to the family Hi-Fi (well, if you're taking over the TV, why not the stereo too?) If the GX400 is not being used with one of the new dedicated Amstrad monitors which provides stereo sound output, this might well be an option, since, even with a game as simple as Burnin' Rubber, the sound chip is capable of churning out nicely separated stereo sounds. Deafen the neighbours!

The last port on the front panel is the 'Auxiliary Control Device' port – light gun port to you and me. Again, we've seen nothing that supports this device (nor even the device – it may be the same unit that is already on the market) so we shall have to wait and see how well it works.



Up top, there are but three items of concern. Towards the front, in the centre, is the all important Cartridge slot with its hinged doors. Surprisingly enough, this is where the games cartridges fit – and we were pleased to see that you can't fit them the wrong way round. Neither can you either insert or extract them while the machine is switched on. That function is taken care of by a combined power/cartridge interlock switch to the right of the top surface (hereinafter referred to as 'the big red switch'). The big red switch moves to the left to allow the juice to flow, and at the same time slots a little tongue into a recess on the cartridge case, thus not only making sure the unit is firmly in position (it won't switch on otherwise), but also making sure that little Johny (or Jenny) doesn't rip the cartridge out before powering down – very sensible!

To the left is a tiny green LED to let you know what the TV ought already to be telling you – that the GX400 has power applied and is ready to play. It's all but invisible if there's anything like a decent amount of ambient light – it could do with a dark surround to it to provide some contrast.

And so to the back of the machine. Here we find a further array of sockets and switches. At the leftmost (viewed from the rear) is a 5 volt socket, for use with one of the new monitors (which provides a 5 volt output). Next up is a 9 volt socket, for use with the provided 'plug-head' power supply pack. Thankfully, it is impossible to plug the nine volt supply into the five volt socket, but I can't help wondering why Amstrad didn't merely supply a five volt adapter and do away with the nine volt circuitry altogether. No doubt there are very good and technical reasons.

Beside the two power sockets lies a dedicated monitor port, again for connection to the new Amstrad monitors (or via a suitable adapter lead, to many others too.) Next in line is a SCART (Peritel) socket, which allows those of us with SCART equipped TVs and monitors (like the Philips CM8833) to get a slightly better picture – more of this anon.

Still further along the line comes the parents' godsend, the Sound switch, which either switches the sound output to the TV or monitor on or (more likely from parental points of view) off. Finally, there is the UHF output socket, in which the supplied TV aerial lead fits to connect the GX400 to the family TV. Output is on the obligatory Channel 36 (or thereabouts), the same as most video recorders and other games consoles, as well as home computers that plug into a TV.

That's the technical aspects out of the way – how does it play? Well, I've already outlined the way the games paddles feel. That said, my two little friends that help with such things tell me that they find the paddles to be a doddle to use, and since the primary user of the GX400 will be under the age of eighteen, I suppose they know something I don't! Either way, the machine is pretty impressive. Burnin'Rubber, as a game, is OK – a bit old hat – standard race car stuff – and not, I suspect, meant to be an earth shatteringly brilliant piece.

That said, it certainly shows off the colour and graphics capabilities of the machine, as well as giving a good idea of what it will do sonically. Catch the last page for the full analysis!



All together now!

What does it all add up to? Many more plusses than minuses.

GX400/CPC464+/CPC6128+ Cartridge games expected to be available at launch	
US Gold	Epic's World of Games
Domark	License to Kill, Klax, Escape from the planet of the Robot Monsters, Cyberball.
Coktel Vision	
Entertainment Int.	Spiderman
Gremlin	Tin Tin
Loriciel	Tennis Cup, Panza Kick Boxing.
Ocean	Chase HQ, Robo Cop 2, Night Breed
Titus	Crazy Cars 2, Wild Street, Fire and Forest.
Ubisoft	Pro Tennis Tour
Anco	Kick off

So, there it all is, a new range of machines from Amstrad – something that's been rumoured, waited for, and hoped for for a long time now. Many hopes will have been dashed, and many others will have been answered.

The decision to make the two new CPC machines look like Amigae and STs is no doubt a marketing decision, and, to be honest, the machines look all the better for it. Perhaps the disc drive on the 6128 might have been better placed where the tape deck is placed on the 464, in a little pop-up pod, but that's really a matter of personal preference.

I'm a little disappointed that the increased functionality, expanded pallette and greater number of colours on-screen are available only to Cartridge programs. The 32 colour mode 0, split screen modes, sprites, and so-on would have been excellent additions to an already good BASIC, but it isn't to be. What the CPC+ buyer is getting is, in fact, two machines in one box - a GX4000 and the CPC of his choice, albeit a very sexy CPC with a gorgeous monitor.

No doubt there will be people who bemoan the passing of the edge connectors and the addition of more solid connectors. They really shouldn't, as the new ports ought to increase reliability - there's no way that anything can gain ingress into the works now, no more little slivers of wire sneaking in the back to mess the works up (yes, it's happened to me before now!)

However, I must record my disappointment at the passing of the ability to add a disc drive to the 464. Many 464 users have already taken that step, and it has always been one of the plus points of the machine that it was easily upgradable to disc operations. The firmware is now a little more intelligent, in that if it sees a 464, the disc rom is never paged in, so that's an option that's out of the window. As the man said, you make up your mind whether you want disc or tape, and buy accordingly.

As for the GX4000, I, for one, warmly welcome it. It's a smashing games console, looks the part, and will certainly give the competition a run for their money. I'm looking forward to seeing lots of cartridges produced for it – not least because that will boost the numbers available for the CPCs. Software houses will, I think, be happy to produce games for a range of three machines. My only hope is that they don't take the easy way out and produce CPC compatible cartridges as opposed to GX4000 compatible ones.

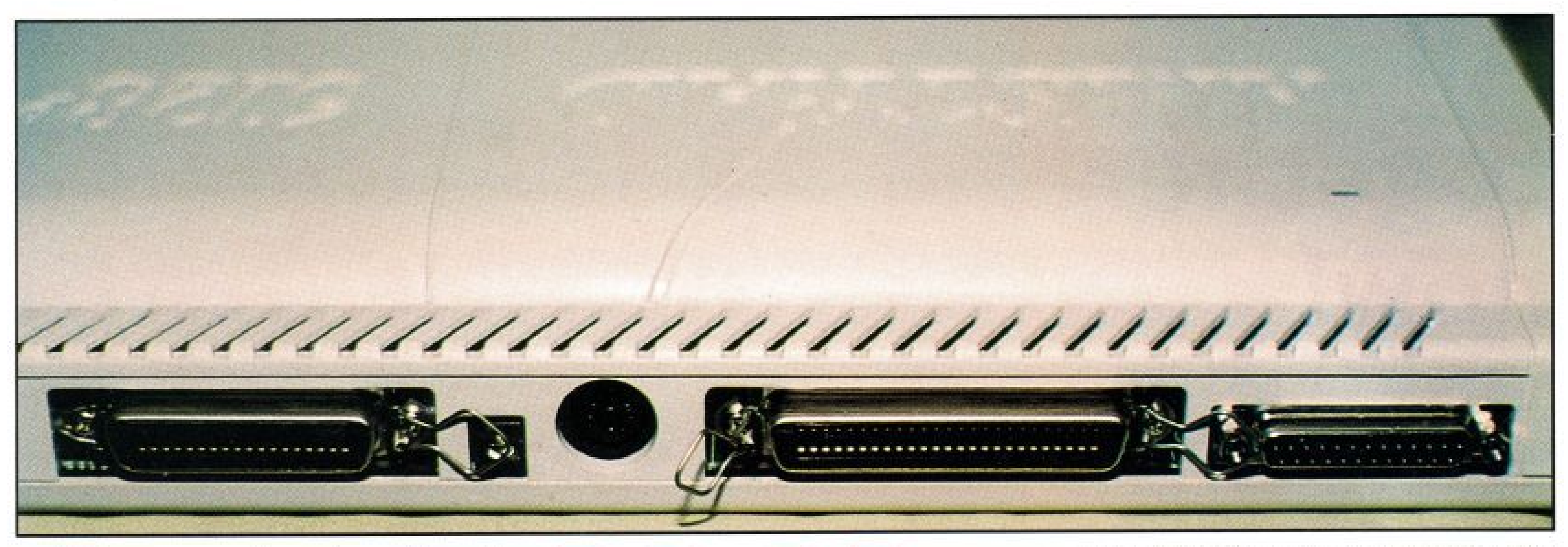
What I mean by that is this. Since Tape and Disc based games will have no access to the extended features of the cartridge system, it would be very easy for games houses to write for the CPC side, and simply port games to cartridges, rather than enhance the code to use all the facilities that the GX4000 side of the range offers. I sincerely hope that that doesn't happen, and should we see offerings which do that, you can have no doubt that we'll say so loud and long.

So there you have it – a new range which I would have liked to have had longer to play with. In some ways, there are disappointments, but in many others the CPC+ and GX4000 range presents new excitement to CPC computing. I foresee lots of the new machines being sold, and I can see lots of 464 users upgrading to the new 6128+. I can also see present 6128 owners adding the GX4000 to their collections, even if they don't move to a 6128+ (which is probably the course of action I would take were I in that position).

Specifications (Full range)

Processor Z80A
Memory 64k (128k in 6128+)
Configuration
ROM (+ cassette (+ 3" disc in 6128) Cartridge in 464+)
Colours 32 from 4096 (available only to Cartridge Games)
Softscroll
Yes Splitscreen Yes Sprites
16 Sound Stereo, 4 channels
Joystick ports
2 digital,
1 analogue Video Output
RGB Sync
Composite (+ In-built modulator GX400)
Monitors 12" Paper White
Mono14" Colour

CPC 464 PLUS WITH MONO MONITOR –	£229
CPC 464 PLUS WITH COLOUR MONITOR –	£329
CPC 6128 PLUS WITH COLOUR MONITOR –	£429
GX4000 GAMES CONSOLE –	£99



PC OR CPC ?

With Siren's new File Transfer Utilities, david Dorn Investigates the possibilities.

How many times have I heard the plea 'How can I get my data files from my Arnold to my new PC?'? About as many times as I've said 'Use a null modem cable and some Comms software at either end.' That's always been the standard way of doing things – unless you've been prepared to send a few discs off to a disc translation service, and pay whatever they charge per disc.

Well, worry no more, Siren Software have leaped into the fray with a rather spiffing utility called PC Trans, intended to get your files from your CPC to your PC, and vice versa, with the minimum of fuss.

Let me premise from the outset that the program(s) and this review assumes that you already have a 3½ " drive on both your Arnold and your PC, since that is what the program is designed to cope with. 5¼ " discs are something else entirely – they may work, or they may not, it's entirely dependent on how closely matched the two drives are.

That said, the sensible PC user has a



3½ " drive on his machine, and the serious CPC user with big discs (especially those sold by Siren) is more than likely to be using a 3½ " unit as well.

So, how does it work? Well, PCs use this strange, weird, and wonderful operating system called MS DOS, which, although it has superficial similarities to CP/M, is as far removed from it as possible, with hierarchical directories, and the ability to utilise lots of different disc formats. Our humble little 3" discs don't fall into any category that MS DOS can recognise, so there's the stumbling block.

PC Trans provides 3 utilities. The first is a little proggy to format a 3 " disc to a format that MS DOS will recognise – nominally a 720K double sided format. However, it's also a little bit clever, in that it restricts the files to 64 in number – like AMSDOS.

You MUST format a transfer disc with this utility – nothing else will do. Thankfully it's a painless process, and quite quick (dare I say a tad quicker than one of my PCs?? I dare – it's a tad quicker than one of my PCs!).

Once you've put together three or four transfer discs, the rest is simple. Another of the supplied programs copies files from your A: drive to the transfer disc in the 3½ "drive B:, and another allows you to read files from B: to A:, effectively transferring files from the PC to the CPC. And that's it! No fuss, no bother, just a limitation of file-size to 64k, which probably won't worry too many people.

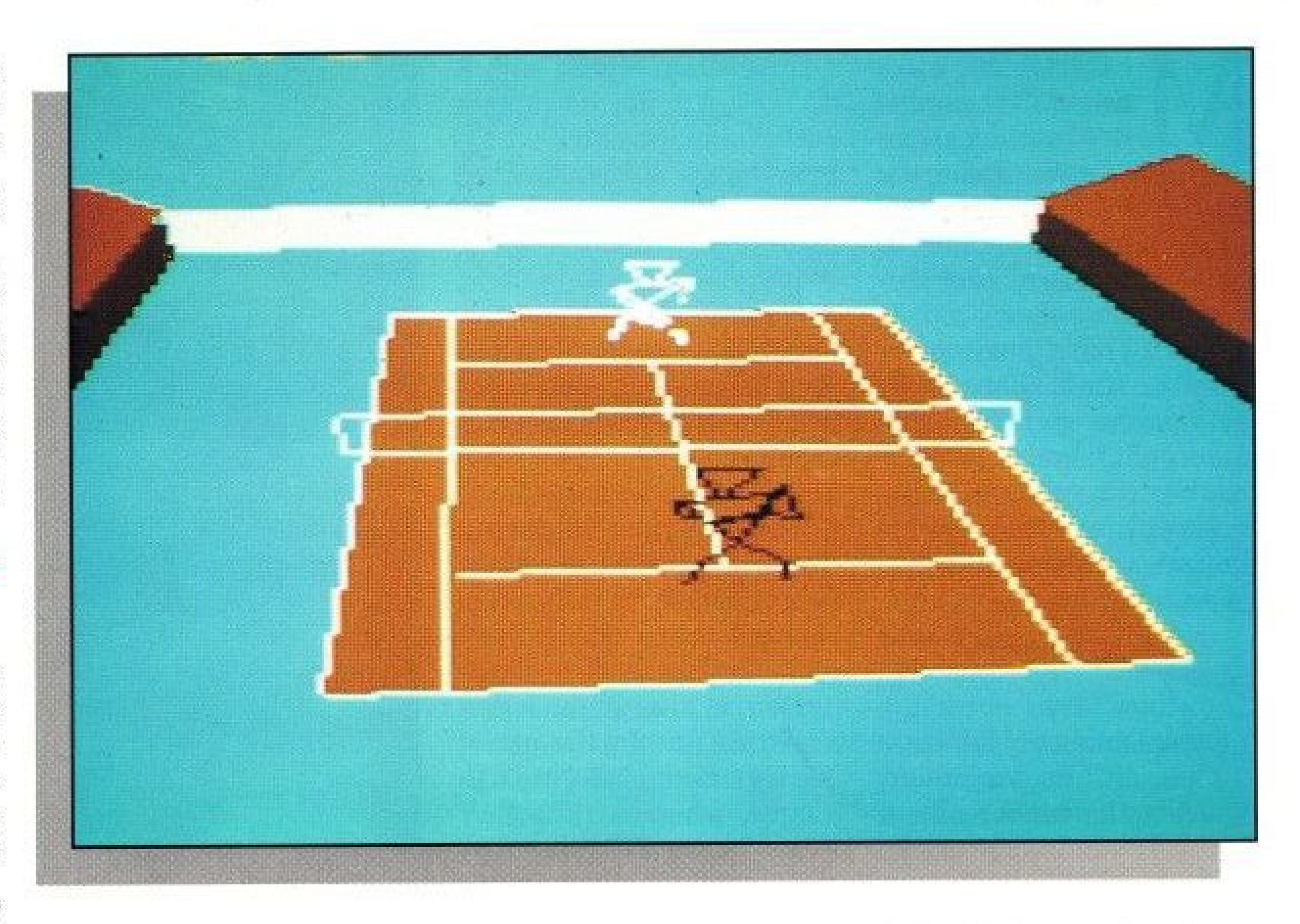


If it does, it's a fairly simple matter to split files into smaller chunks, transfer them, and recombine them at the other end. I've been swapping files back and forth from one machine to another with no problems at all. The only thing you MUST do is to keep your transfer discs labelled and separate from RAMDOS or RODOS formatted discs – a mix up will cause problems.

I'd have liked to see the PC Trans accept files direct from applications (effectively giving PC format drive B: discs), but that is probably asking too much at this stage. As it is, one of the reasons the suite works as well as it does is because hierarchical directories are not allowed on transfer discs, not that this is anything of a drawback. After all, all it's intended to do is transfer files from one machine to another, and this it does with no fuss or bother.

And it almost certainly works out a lot cheaper than buying (or even making) a null modem cable, and sourcing comms software for both ends – not everybody is into comms (and Gordon wants to know why not!) To coin a phrase, it's a blurry clever piece of kit, and ought to be in every PC/CPC owners' armoury.

Profile
PC Trans Siren Software,
84-86 Princess Street,
Manchester M1 6NG
Price £24.99
Tel :061 228 1831



INTERNATIONAL TENNIS

Take on the top seeds and win your way through to the Wimbledon final.

When it comes to the computer tennis scene, Palace has got it all wrapped up, game, set and match with this excellent 3-D package.

Beforewe go into the vast number options included within the game, a quick note on the players themselves might be helpful: don't expect to recognise any of your favourite aces out there on the court.

Each of the contestants looks like a pipe-cleaner person. There are white pipe-cleaners and black pipe-cleaners and you usually take on the role of the black one in the one player games.

Now we've got that out of the way, don't let it distract you from buying this superb simulator. In fact, the pipe-cleaner people give the game a further touch of originality from other offerings on the market.

Getting into the game, you have the choice of amateur, semi-pro, pro and ace, each with their own distinguishing features.

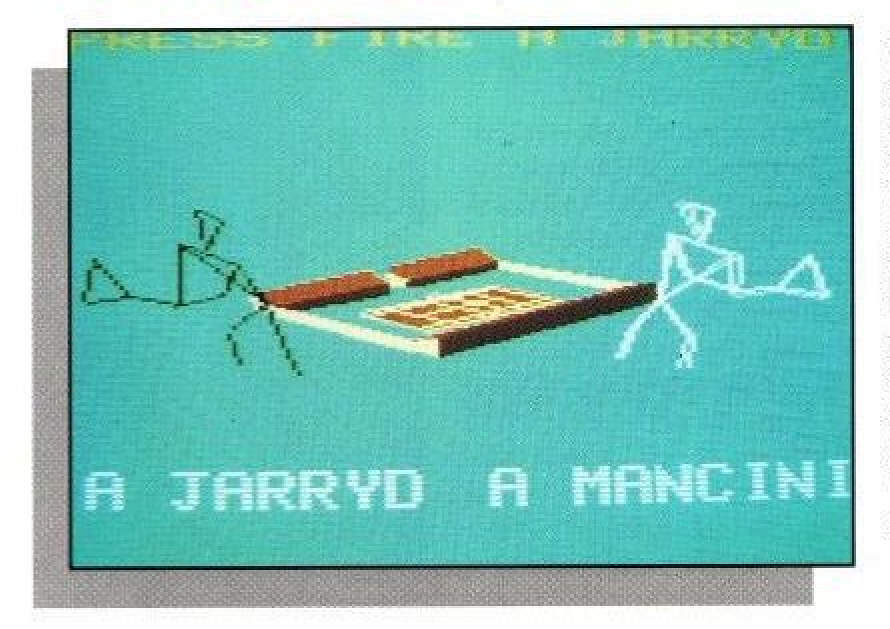
As an amateur, you don't have much say over serving or spinning the ball, just make sure you cover the court area and try not to overhit the ball. When using the semi-pro option, you get to have a go at serving in your own style. Use the joystick to direct the ball, and keep your finger on the trigger to adjust the strength; a little drop serve could help to confuse your opponent.

Taking on the role of a pro, you will notice a certain lack of assistance from the computer, namely the omission of the flashing player when you need to hit the ball. From now on, you're on your own.

If you feel up to Ace status, you get the added option of putting top and bottom spin on the tennis ball to speed it up or slow it down after the bounce.

Got the hang of all that? Right, well it's tournament time for you then kiddo. There is a full selection of 72 real Grand Slam and other competitions for you to enter, and if you do well, there are plenty of big bucks to be earned on the circuit.

If that still wasn't enough, you can even take on a whole season of top class tennis, saving and reloading your game to reenact a year in the life of a top class pro.



That's the jist of the game, but to spice it up even more, you get a choice of four different playing surfaces, the chance to view the court from ten different camera angles, and a handy option to handicap your computer opponent, or a friend of course.

Using excellent 3-D real time animation, and featuring some marvellous TV tennis music, no tennis fan could fail to be impressed by International 3-D Tennis. It may take you some time to master all of the strokes, just like the real thing, but once you've got the hang of it and you've got used to the rather curious looking figures, you'll be glued to the court til Wimbledon comes around again next year.

Chris Knight

ROUND-UP			
NAME	International 3-D Tennis		
FROM	Palace	PRICE	Disc £14.99 Cassette £9.99
82%	80%	87%	TNT
GRAFFIX	SONIX	PLAYABILITY	VERDICT

Mr D P Gumby has a dream.It is a noble dream, dreamed only by those who dream the noblest of dreams;he wants to be counted as a member of that heady world of Chartered Accountancy.

Mad? That's not too far from the truth.There he is, lying on the operating table undergoing brain surgery, only two slices, a nip and a tuck away from realising his lifetime's ambition, when disaster strikes.



Complaining of bad working conditions and overcrowding, his brain makes a dramatic bid for escape by splitting into four parts, leaving Mr Gumby four sandwiches short of a picnic and without a hope of practising on his bought ledger. A very sorry affair indeed.

Not being one to give up without a fight, however, Gumby sets out to pick up the pieces of his brain which, not surprisingly, have been doing pretty well for themselves during their spell of freedom:three parts ran off to join the Buzz Aldrin Formation Dance Troupe, while the more individual fourth part is a film by Ken Russell. This is going to be no easy battle.

Monty Python

Spam, Spam, Spam, Spam, Spam, Egg, Chips, Spam and Spam

Nor, might I add, is it going to be a normal battle.Monty Python, The Computer Game, has to be the zaniest offering on the market to date.Not only is the gameplay barking mad, it's funny too.Quite a rarity these days.

The game is played over four separate levels, with a section of brain lurking in each.Your job as Mr Gumby, is to track it down using the ultimate of weapons-damp fish

Ok, so you start off and everything seems fairly normal, just a couple of 16 ton weights to negotiate, but what's that little walking bush doing behind you? Get to the end of the screen and you have to take a leap into the unknown.What's this? Gumby's turned into a fish himself! Now the lunacy really begins.

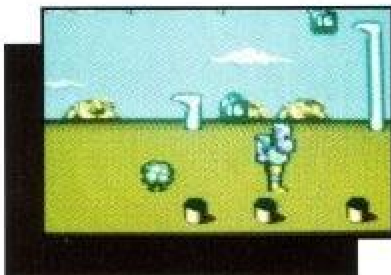
Two of the game levels allow Mr Gumby the use of his legs over platform challenges, whereas the other two will see you flipping your fins in sub-aquatic splash-abouts.

On each of the levels, you take part in a massive spam hunt against the odds, and boy, is it odd!No less than 16 tins need to be collected per level to get the brain segments back, and they're well hidden, so you'll need to poke around every exit to make sure you get your quota.

Keep an eye out for the opposition, they come in all shapes and sizes and, of course, in true pythonesque form.

No sooner have you gone underwater than the flying feet start harassing you in no uncertain terms.Look out for Eric the Half a Bee as well, him and his friends can deal you a very nasty sting.

If you thought that was bad enough, wait til you progress a little further. Nobody expects the Spanish Inquisition, but they're here and they



mean you no good at all with their fluffy pillows.

You'll need to keep spectacularly cool if you want to negotiate your way through an attack of the nasty, nasty killer Keep Left signs and, once you've worked your way through the educationally unsound parts of the body, it's time to take on the might of the Ministry of Funny Walks.

You still want more? You've got it. Dead parrots, (or are they just resting), biting pillars, secret policemen, killer cars, gas cookers, eggs, sausages, those marvellous flower arranging lumberjacks and some very nasty looking foreign cheeses that need to be blown up for bonus points.

At the end of each level, you can gain bonus points by taking part in pointless arguments with yes, you guessed it, the Minister of Pointless Arguments. Keep contradicting him for higher scores but be careful, you could lose out for indecisiveness.

Talking of points, don't expect to make any high scores in the Python game. You actually start off with 99,999,999 and the aim of the game is to lose them! The lower your score, the better you've done.

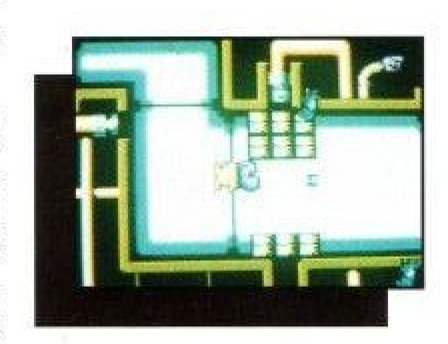
For every 10,000,000 points you lose, Mr Gumby gets a new life. Simple what?

Just when you thought they'd gone quite far enough, you'll find it hard to keep a straight face when you see what your death-defying smart bombs look like. Look like? They are! They're Lupins.

If you can make sense out of this game, then you're a better man than I. The best idea is to forget the sense and enjoy the content.

There's something for everyone in this game, from daredevil stunts to paranormal puzzles. There's also plenty of scope for adventure as you sift around for spam.

Remember, you've only got three lives, and you'll need at least one of those if you want to succeed in the world of accountancy. You'll also need a fair knowledge of cheeses if you want to get on. Identifying the various types of foreign cheese in the Cheeslok security system can be tricky, especially with no smell sensor on the CPC.



The backdrops to each screen are totally wacky, with plenty of colourful graphics to distract you from the spam hunt. As you can imagine, the sound effects more than live up to the weird happenings throughout what must be one of the most playable games of the year. It's certainly the most original. Maddeningly so!

Chris Knight

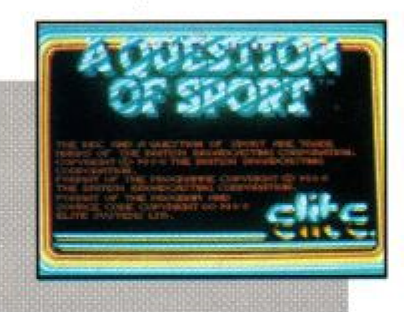
ROUND-UP			
NAME	Monty Python		
FROM	Virgin	PRICE	Disc £14.99 Cassette £9.99
86%	86%	93%	JACKPOT
GRAFFIX	SONIX	PLAYABILITY	VERDICT

Budget Basement

Feast your eyes on some more summer sizzlers on the cheap side.

QUESTION OF SPORT

Yep, quiz time again, only this time in a more sporting vein. Follow the fortunes of Billy Beaumont and Ian Botham in this marvellous version of the TV show, under the watchful eye of David Cole-



man.

Pick your teams and be prepared for some real teasers in the form of What Happened Next?, Mystery Personality, Home or Away, and the famous picture board.

You'll need to be good to get one over on the computer, but with a friend, things should be a little more evenly balanced in this marvellous quiz package.

As with Pop Quiz, there is plenty of fun to be had and the clear sonix will let you know just how well you've done on each question. Don't forget to keep your eyes on your opponent's questions, a handy bonus point could mean the difference between winning and losing.

POP QUIZ

DJ Mike Read is the host, and you'll need to be well genned up on the music scene if you want to succeed over six gruelling rounds against the computer or a friend.

Choose your specialist subject, pick your team and hit the trail with the first round-the Jukebox round. There are over 1,000 questions to choose from in this well presented package, which should keep you occupied for a few hours at least.

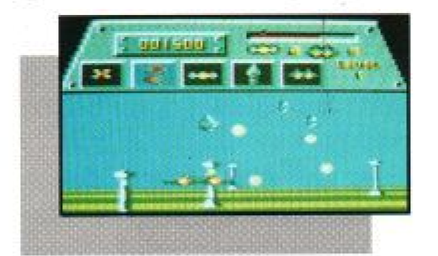
Get your thinking caps on for the Spot the Star and Name the Year rounds; the clues aren't easy.

Speed takes over for the quickfire round, and this is your chance to catch up if you've managed to slip behind. For the final round, it's back to the Jukebox.

The graphics are well-defined, and there are some nice sound effects to liven up the game but, be careful, that old computer sure knows the answers to a lot of questions.

T-BIRD

There you were, taking the latest Foourd T-Bird out for a test drive after trading in your clapped out old Laader, and suddenly you find yourself trapped within the alien ghetto. Time to fight your



way out.

The T-Bird is the ultimate in futuristic transportation in this marvellous shootie from Mastertronic, armed with a host of death-dealing weaponry which can be enhanced by running into special pods after you've destroyed the latest wave of aliens.

The Spinner will keep you topped up with energy, the Sidearm will do away with baddies to your left and right, and you can use the hyperspace option to blast the whole screen around you.

Watch out for collisions as your shield will only take so much, and you'll need as much of it as you can spare to do away with the big bad mother ship at the end of the run.

As a budget game, T-Bird is packed with action, and what it may lack in the colour stakes is more than compensated for by the excellent sonix and variety of enemies to blast away.

WORLD SOCCER

Football management has come back with a vengeance in this excellent offering from Zeppelin. What do you have to do? Pick your favourite team and manage them through to the first division. Now win your ticket to Europe and take on the best of the rest to become World Champions.

There are a host of options to choose from which will see you wheeling and dealing, buying and selling players, picking your best squad, sorting out the injuries and keeping a scout on the prowl to hunt out your opponents' weaknesses.

Don't get too excessive with the purchases or the Bank Manager will be down on your neck.

Each of the league matches is fully covered by Zep TV in the form of ace sports reporter Joss MacDonnald, and you can pick up the full league re-



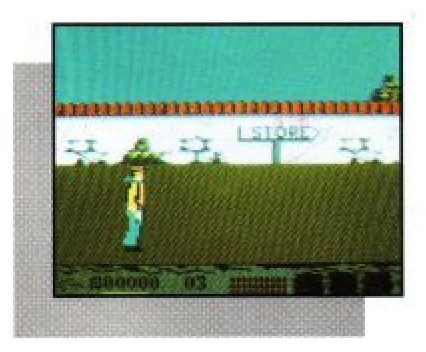
sults at the end of each match.

There are some excellent graphics to see you through your dealings, but you'll need to do your homework well if you want to field the side that's going to go all the way to the top.

SPAGHETTI WESTERN

Time to go bounty hunting again, this time under the guise of Clint Westband, and it's a real rootin' tootin' epic as well.

Clear the town of bandits to make your money, but watch out for innocent bystanders. Shoot them and you lose out through relatives' compensation.



Earn enough and you can buy more supplies like dynamite, whisky and a good old bullet-proof jacket.

Watch out though, there are more than bandits out there, and you'll need potions, charms, honey pots and crucifixes to do away with the ghosts, hornets and scorpions. It's a dangerous world out there and you'll need to be tough to survive.

Be quick on your six shooter as you also need to destroy various objects that come flying towards you, like the odd horseshoe and wagon wheel. It really is kill or be killed, so be warned, and make sure you get out and buy this superbly produced package now partner.

ROUND-UP

NAME	FROM	PRICE	RATING
Pop Quiz	Encore	£2.99	80%
Question of Sport	Encore	£2.99	82%
World Soccer	Zeppelin	£2.99	76%
T-Bird	Mastertronic	£2.99	86%
Spaghetti Western	Zeppelin	£2.99	88%

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Firmware Calling

Your Auntie is still waiting for some input. This month he tries asking the firmware to help him.

Greetings fellow machine coders! If you remember our last exciting visit to the wonderful world of mnemonics, we actually managed to write a program which could put something on the screen.

It worked by using the firmware calls embedded in the operating system, or in slightly plainer English, we cheated. We used the routines that the CPC designers thoughtfully left lying around in the ROM. And why not? That's what they're there for.

To recap, when we wanted to output a character to the screen, all we did was load the accumulator (the 'a' register) with its ASCII value and call the routine at &BB5D: The firmware did the rest.

You may guess that getting input for a program from the keyboard is also possible by using the firmware. And you'd be right!

I'm going to show you how you can perform the machine code equivalent of BASIC's INKEY() statement. This routine checks to see if a key is being held down at that precise moment in time. A bit like me, it doesn't wait around if nothing is happening.

To demonstrate the key reading, we'll also make use of two or three other firmware routines. These are GET_INK, SET_INK and another one that's a secret for the moment.

To understand how GET_INK works, you'll need to know a little about how the CPC treats colours. Our beloved Arnold can display twenty seven different colours, but not all at once. Instead it uses "pens" , the number of which depends on the screen mode. In mode 1, there are four pens. One of these pens is the background colour, one the default colour of text and the other two can be anything you want.

The clever thing about these pens is that that can be different colours. Although the text may be white now, you can change it to whatever colour (of the remaining 26) you like. You can even make it the same colour as the background, and so hide it.

To change the colour of a pen, we first find out what colour it is at the moment by calling GET_INK. This routine needs the pen number to be supplied in the accumulator: In the example program, we chose pen 0 – the background colour.

GET_INK returns the two colours in the registers B & C. "Hold on there", you might say, "Did you just say two colours? Why two colours? Surely a pen can hold only one colour of ink?"

"Ah'", says I, "but this is a computer and not constrained by the physical laws of mere mortals". But then, I say that kind of thing a lot. Which explains why I spend a lot of time in the kitchen at parties.

If you remember, the CPC can display a flashing ink on the screen..

Don't believe me? Then try typing this line directly from BASIC:

```
INK 0,20,0
```

You'll find that all the text on screen suddenly starts to flash. It's changing between ink number 20 and ink number 0. You can see that it's really the non-flashing colours which are a special case. If a colour is not flashing, it's just changing between two colours which are the same. See?

Anyway, all this means is that each pen has two ink colours associated with it, and GET_INK puts them into B and C. Our example program will change the pens, by making them cycle both up and down through the ink colours. On a green screen monitor this gives a wonderful impression of fading in and out. In colour, it just looks weird.

We change the ink value by changing B and C, then calling the routine SET_INK. We need to specify which pen again, as the GET_INK routine messed up the first zero we placed in the accumulator. That's an important point: Never assume a routine will preserve the contents of the registers unless told otherwise.

So to increase the pen number we have to increase B and C. You might say, "That's easy: ink bc". You might also cheat and look at the listing. If you do, you'll see that instead of ink bc, we used two instructions: ink b and ink c. Is there a reason for this?

Of course there's a reason. The ink bc instruction assumes you're treating the b and c registers as a pair. That is, a single register that can hold a number between 0 and 65535 (see the last few back issues for details on how and why this works), which of course, we're not. We're treating them as separate registers, one for each colour.

Can you guess what ink bc would do? If you're on the ball, you'll know that it will increase the c register by one, until it reaches 255. Then it will reset it to zero, and increment b. You can see that this would allow the ink numbers to change in a really weird way, and not in step with one another. They would start flashing and all sorts of weirdness would result. Which is why we don't use it.

Let's have a look at the example listing now. It should be typed into your assembler and assembled to run at address &8000 (that's what the ORG statement is all about). Remember to set himem (where BASIC can stop, so as not to overwrite the code) with a MEMORY &7FFf before you begin.

The program starts by assigning our firmware routines and constants to slightly more memorable names. Would you rather remember the number &BB1E or the text TEST_KEY? I rest my case.

Once past three equates, we get into the main loop. The part of the program between .loop and jr loop will repeat indefinitely.

Well, almost, because we check for the space bar being pressed, and if it is, we do a RETURN to BASIC. We check for the space bar using TEST_KEY, which must be supplied with a key number in the accumulator. Now don't confuse the key number with an ASCII value. They have nothing in common except that they can both confuse you.

The key numbers is a way of giving each and every key on the keyboard a

unique reference number. The exceptions are the SHIFT keys, which share the same number. You may have come across them when playing with the BASIC keyword INKEY.

These keys numbers are detailed in your manual, or if you have a 6128 they are printed on the disk drive along with the colours. Useful, eh?

TEST_KEY takes this number, looks at the key to see if it's being held down and then changes the Z flag. Remember this flag? It normally detects a zero or a truth in a compare instruction. In this case, if it is SET, then a key is NOT being held down. If it is RESET, then the key IS being held down..

You can see that the three lines after .loop will test for the space bar, and if it's being pressed will do a return. That's how we get back to BASIC.

The next three lines test for the cursor upkey. If it is being pressed, the subroutine COLOUR_UP is called. This one changes the ink number as we did and then returns. In this case, because the subroutine was CALLed, the RET will not go toBASIC, but from where it was called from. The rest of the program you should be able to work out for yourself!

If you have entered and assembled and run this program, you may find that when you press the up and down keys, instead of getting a nice change in colour, you get an instant headache. The reason for this is that the program is too fast. It changes the colours so quickly that you don't have time to notice them. Isn't machine code wonderful? When did you last write a BASIC program that ran too quickly?



To slow our program down, we can use the secret firmware routine FRAME. Put the line CALL FRAME just before JR LOOP. If you now run the program, it will run so much more smoothly.

This is because FRAME causes the program to wait for a bit, and synchronises itself with the TV picture. The result is a much smoother display. In fact, a display which is ideal for moving graphics around. This is quite handy, because moving graphics around is exactly what we'll be doing next month!

See you then!

The Program:

```
TEST_KEY      equ &BB1E
GET_INK       equ &BC35
SET_INK       equ &BC32
FRAME         equ &BD19
SPACE         equ 47
KEY_UP        equ 0
KEY_DOWN      equ 2
ORG &8000 ; Start address of program

.loop ld a,SPACE
call TEST_KEY
ret nz

ld a,KEY_UP
call TEST_KEY
call nz,COLOUR_UP

ld a, key_DOWN
call TEST_KEY
call nz,COLOUR_DOWN

jr loop

.COLOUR_UP ;Cycle colours up
        ld a,0
        call GET_INK
        ld a,0
        inc b:inc c
        call SET_INK
        ret

.COLOUR_DOWN
        ld a0 ;Cycle colours down
        call GET_INK
        ld a,0
        dec b:dec c
        call SET_INK
        ret
```

Well, that's your lot for this month, so keep playing with your firmware until the next exciting instalment.



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Down to Business

Old problems and new, Dr. Dorn's got all the gen.

Phew! What a busy month this has been. No doubt you'll have noticed the supplement already – I've got to say that getting into the new CPCs and the GX4000 has taken rather more of my time this month, and so I'm featuring a few cries for help that I just haven't had the time to track down, as well as the bits you need to make an adapter for the new expansion port on the CPC+ machines (note the natty photograph, if our great and mighty leader (Hi Chris) manages to squeeze it in).

So, first out of the wide brimmed hat this month is a missive from Yorkshire – Scarborough, in fact, where my wife's husband and his good lady went to college. Edward Knowelden writes:

'Here are two points that I hope you can answer in your ACU column. Firstly, I have a CPC464 and a Star DP150. The problem is that I can only get it to print the characters accessible via the keyboard, and not the other ones, like mathematical symbols. As far as I can make out from the instruction manual, the standard character set is divided into two blocks. One, the keyboard characters (nos. 32-126) and two, the miscellaneous characters (nos. 160-255). If I try to print a character from the second block, it will print the corresponding character from the first. For example, if I typed "PRINT #8, CHR$(160)", it would print the character number 32 (a space – DD)
All very strange.

And now question number two. On the subject of the Star DP150,could you tell me if the Qualitas Plus V2 printer utility will work with it? I am only asking this question because I feel that my printer is not as up-to-date as it should be, and I am not sure if it can download new fonts.

"Many thanks for helping (if you can)"

Well, I'll do what I can. The first problem you have is firmly down to the 7 bit printer port that the old 464 sports – a problem that you wouldn't have on the new machines (but then you don't want to know that, do you??). You have already noticed that printing a character over decimal 127 returns the character 128 less in the scale of things, and this is because the 8th bit (bit 7 – don't computers count strangely?) is missing, and to get a value over 127, you need the 8th bit. Like this:

```
bit    0 1 2 3 4 5 6 7
       \ \ \ \ \ \ \ \
value  1 2 4 8 16 32 64 128
```

Since bit 7 is missing from the 464 printer port, it can only add the first 7 bits together, and it won't get as far as your example value of 160. But there is, happily, a cure – two in fact! The first (and cheapest) option is in software, and involves you in sending three sets of codes for a character out of your 'second bank'. The first 'escape code' tells the printer to set bit 7 to 1, rather than 0, the second character is the one you want printed (you can strip bit 7 if you like, but there's no need to), and the third is an escape sequence to tell the printer to reset bit 7.

For an Epson compatible printer, with your character 160, the whole thing looks like this:

```
PRINT #8,CHR$(27);">"; CHR$(160);
CHR$(27);"="
SEND CHAR
```

That sorts that out. The other option, of course, is to get hold of an eight bit printer port for your Arnold (or a new series Arnold). The choice is yours!!

Now, to the second part of your letter. I'm afraid I don't know the printer at all, so the best I can suggest is that you contact Seven Stars and ask their advice on it.

Roaming about the ROMboard.
From Welsh Wales, where the place-names are unpronounceable and they don't seem to know what vowels are, Robert J Douglas has word-processed a plea for help (good Welsh name, that, Robert). He says:

' Recently I purchased Goldmark's Labelmaker program, which didn't work on my printer, for whatever reason. While this is disappointing, I have nothing but praise for Brian on two counts. Firstly, I received my program within a week of my placing the order, instead of the the four weeks to four months I and a friend have been subjected to. After two calls to Brian to see what could be done, or what had gone wrong, I sent him my printer manual to see if the problem could be solved. Maybe in my case nothing can be done, but it is nice to know that he is interested and willing to look into a problem for this one customer.'

Well, Robert, I have to say that I would expect nothing less from Goldmark – in my experience they have always had that attitude, fighting, as they have had to, the unreasonable stigma that all

they were ever interested in was writing rip-off software to assist piracy – something that Brian had no intention of doing. Robert carries on:

'For some time now I have been looking for a ROM based database and spreadsheet. In going over Goldmark's brochure, I found that he offers ROMs for Masterfile/calc 464, which I have used for several years. The ROMs do not offer these programs extensions, and require that you send your program tape or disc in exchange, but the convenience of having them on ROM outweighs the need to retain the extensions on disc.

My ROMbox holds eight ROMs and is used with my 664. Position "0" is occupied by the computer's BASIC ROM but could be used for a foreground ROM. What is considered a Foreground ROM?

Position 7 is occupied by AMSDOS, Disc drive ROM. Could I put a ROM in this position without affecting AMSDOS? In theory this leaves positions 2 through 6 for external ROMs – Protext ROMs (3) Masterfile/calc, Romdos etc., where as I plan to upgrade my system with seven to eight roms maximum. Would changing the ROMbox over from positions 0 – 7 to 8 – 15 solve my problems?'

You're a rare person, Robert, a 664 user! I've had to delve into my copy of SOFT968 to try and sort this one out – the 664 is not a beast I've ever played with! Firstly, the difference between a foreground and background ROM. The BASIC ROM is an example of a foreground ROM – it essentially contains a



program (or programs) only one of which may be running at any one time. BASIC is an interpreter that takes instructions in the form of programs, and executes them, but the CPU is only aware that BASIC is running. Therefore, a foreground ROM would have to replace BASIC altogether, in one way or another, much as CP/M or most commercial games do. A Background ROM essentially is very similar to RSXes (resident system extensions), which can be called by the user or other programs, and which do not replace BASIC or any other foreground program. That's as simple as I can make it!

Your problem with rom slots is very simple – I don't know of any foreground ROMs that are available at the moment, BUT you CAN place an expansion ROM in slot 0 – BASIC will occupy the first free ROM address it can find. However, you can't piggyback another ROM onto slot 7 – the disc ROM wouldn't like it at all. So, what we have to discover now, is whether you have version 1.0 or 1.1 firmware. SOFT968 tells us that it is indeed V1.1, which means that you have access to all slots from 0 – 15 at your disposal. The simplest answer to your problem, as you sorted out yourself, is to move the little jumper in your ROMbox, and shift the roms into the upper bank, 8 – 15. If it's of any interest, my setup on the 6128 utilises two rom boards, covering the full range from 0 to 15, with slot 7 blanked out altogether. You should have no problems at all!

Quickies

Before I give you the part numbers and instructions for making an adapter from the new CPC+ range's expansion port to an old-style card- edge, a couple of very quickies, which I'll cover in detail next month.

1. For Mr. K J Bull – Turn to page 7.39 in the 6128 manual (part 9, connections). The information you need is at the top of the page.
2. For Peter Wise – beg, borrow, or steal a copy of SOFT968, the Firmware Guide (out of print, you may have to seek deep to find one), in which you will find all the details you need, in much greater detail than I can possible give here.
3. For Peter Matthews – What you seek to do with a 464 is not, as yet, possible on a PC. Something close is, but it requires massive amounts of hard disc space. The short answer to your question is no, it isn't possible – more on this next month (that'll keep you all guessing!) your offer is very tempting, but my conscience (and my wife) won't allow me to say yes. Also, there's no way I can fit any more jumpers in my wardrobe, but thanks anyway.

New Connections

As you will have seen (will see, if you haven't read it yet), the new CPC machines come complete with very professional looking sockets at the back, gold plated, too, rather than the old card-edges onto which to attach any add-ons. The problem is, at the moment, all the add-ons you can get come complete with card-edge connectors. Ergo, thus, and likewise therefore, at absolutely every expense spared, here follows a guide to making your own adapter.

You need the following:-
1 Centronics type
50 way male plug (Insulation Displacement type -IDC preferable)
Maplin type JB56L (5.95)
1 short (roughly six inches – 15cms for Blue Peter viewers)
length of 50 way ribbon cable
1 50 way card-edge connector – again IDC type.
Maplin FS81C (1.48) 1 50 way bus cross-over unit
Maplin GD37S (reversiboard) (1.98)

Assembly is very straightforward, but to be sure that you make the best job, you will need either an IDC connector plier, or access to a vice (and we



all have our vices, so there's no excuse!). Take the 50 way Centronics plug, and the cabling. With the index wire (usually the red line end) at the right of the plug (wide end up), crimp the cable to the plug. Done that? Good! Now, assemble the plug shell, and get hold of the 50 way card edge connector.

THIS IS IMPORTANT!! The index wire should also go to the right of this plug – such that the Centronics plug is on one side of the ribbon cable, and the card-edge connector is on the other – they form a sort of 'Z' – see the photo if you're at all unsure. Having made absolutely certain that you've got the thing in the right orientation, crimp the connector to the ribbon cable, and assemble the shell onto it. Lastly insert the reversiboard into the card-edge connector, and lo and behold, you've got an old-style Amstrad expansion port waiting for your peripherals to be slotted onto it.

Replacing the card-edge connector on both disc-drive leads and printer leads is simply a matter of using the right IDC type connector and substituting one for the other – have a look at the photos scattered around this mag to see what they look like. Phew! That's it for another month – you've got a taster of what's coming next month, and I expect that the queries on the new machines will be coming in the month after that (as I write this, there are only pre-production machines available, and it is, in fact, only July). Until next month, then, take care, and keep those letters coming in! Live long and prosper.

Making the headlines

Seasoned campaigner Eddy Blackmore takes Brunning Software's Headlines for a spin, and finds it very much to his liking.

Headline

For use by BrunWord Elite
on the
Amstrad CPC 6128

Brunning Software

Headline sets its own guidelines.

Way back in 1985, I traded my Spectrum computer for a new CPC6128 and a month or two later visited the first Amstrad show. My purpose being to purchase a word processor. At the show the choice was far from easy but it boiled down to a choice between Protext and BrunWord. In the end it was Peter Brunning's almost outrageous enthusiasm for his product that won my vote, helped by actually having a spelling checker rather than just the promise of one to come. Since then I've seen BrunWord go from strength to strength.

My most recent acquisition was BrunWord Elite which I purchased late last year, though I admit that my excitement was tempered by not being able to use the 24 pin fonts on my 9 pin printer. I help to run a small club and the task of writing the monthly news letter has come to rest firmly on my shoulders. My Amstrad DMP2160 printer is far from ideal for the purpose.

Now I have found new excitement. A few timely telephone calls produced a complimentary copy of Brunning Software's new programme 'Headline' with the added advantage (hopefully!) of a bonus to come when this review is published. Life with 9 pins might not be so bad after all.

I'd better explain. Brunning Software claims that Headline allows the page formatting features and 24 pin fonts of BrunWord Elite to be used with a 9 pin printer. The dot size of a 9 pin printer is larger than on a 24 pin printer so when a 24 pin font is used on a 9 pin printer, the letters will print out about 50% bigger..

First Impressions

The basic Headline package comes with two instruction manuals. One of 42 pages which is the standard BrunWord Elite manual and one of 12 pages which covers all the extra features of Headline. The type face of the two manuals is very high quality with just the faintest hint that they are not actually type set. I discovered while reading the Headline manual that it was printed using a 9 pin printer and photographically reduced from A4 to A5. That's quite amazing as the text looks identical to the other manual which actually did use a 24 pin printer.

Two Weeks Later

Writing now as an 'old hand' at Headline I can say that it certainly lives up to its promise. Having borrowed an Epson LQ550 24 pin printer and used it alongside my amstrad 9 pin DMP2160 printer, its quite surprising that there are applications where the BrunWord Elite type face actually looks better on the 9 pin DMP2160 printer. For example, a short letter which only partly fills the page, looks more balanced using the 24 pin font on the 9 pin printer, simply because it prints out about 50% larger.

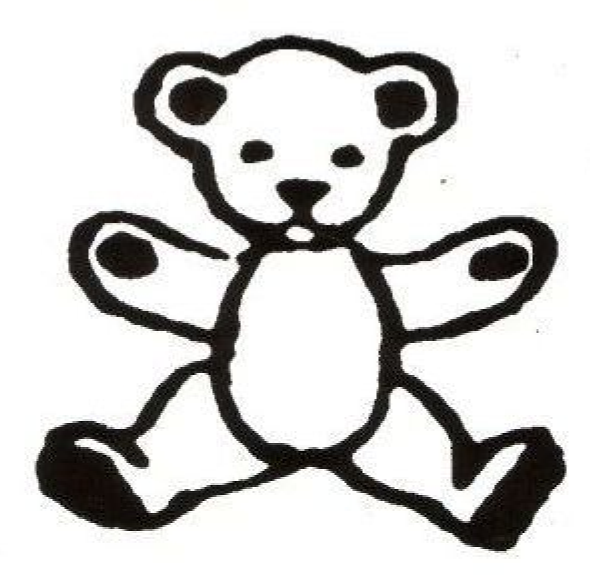
For my News Letter I have experimented with a mix of the three sizes of BrunWord Elite fonts. The smallest prints at roughly the same size as the normal type face and is perfectly satisfactory for the bulk of the printing. I started each article with a double height heading and used a large font for the first paragraph on each page. The overall effect is very impressive, particularly as normally I am unable to print double height headings using the DMP2160, and because all the printing is micro justified proportional text.

How It Works

Time now to stand back and consider what headline really offers an average CPC6128 user. Headline, in simple terms, could be thought of as a print enhancer along the same lines as Qualitas (Seven Stars Publishing), but with some very important differences.

A 9 pin dot matrix printer has a print head with 9 vertical print pins. The printer 'fires' these pins at the ribbon, while moving across the paper, to produce a series of small dots. By firing the pins in the correct combination it creates dot patterns in the shape of letters. Obviously, the print head can only print 9 vertical dots in one sweep and this produces rather low quality letters – known as draft mode. If this is over printed with a second set of dots, after moving the print head down the paper a very small distance, then the dots join more smoothly, creating higher quality letters – known as Near Letter Quality (NLQ). You can see that a 9 pin printer actually prints in NLQ, as if it had 18 pins in the print head.

A normal print enhancer such as Qualitas prints using two sets of 7 pins and so creates characters that are 14 dots high (16 dots with an 8 bit port). Anyone can see that 14 being less than 18 will produce lower quality characters, which would rather seem to defeat the object. In practise, the Qualitas fonts have rather poor descenders unless you have an 8 bit port.



On the other hand, Headline is supplied with three sizes of fonts. The smallest is 16 dots high and prints using two passes of 8 pins. The middle size is 21 dots high and the largest is 24 dots high. Both of the larger fonts need four passes of the print head.

Now you will begin to see the picture. BrunWord elite was originally designed for 24 pin printers and was supplied with a set of 24 pin fonts. Headline is able to use these 24 pin fonts by driving the printer in an extended NLQ mode. Instead of just two passes, which limits the resolution to 16 dots (for external fonts), Headline uses either two or four passes depending on the size of the font.

All this talk so far concerns the natural size of the fonts. Qualitas is able to print normal and double height but Headline has normal, double, and eight times height. Again, qualitas is limited to normal or double width while Headline can print any width from normal to nine times width.

The comparison to Qualitas ends here, as Headline enables all the page formatting facilities of BrunWord Elite to be used with a 9 pin printer. It is possible to draw lines and boxes, to print in columns, to move the print head to a particular distance down the page and to print using micro justified proportional text.

Try this:- Take a pen and write 10 letter i's, then underneath write 10 letter m's.

iiiiiiiii
mmmmmmmmmm

The line of m's will be longer than the line of i's. What this shows is that we all naturally write using proportional letters. In the beginning, using a typewriter with proportional text would have required the carriage to be moved a different amount for each letter, which was not possible. With modern printers, the space between letters can easily be varied so proportional printing is straightforward, except... now we expect our text to be justified and most word processors are unable to justify proportional text.

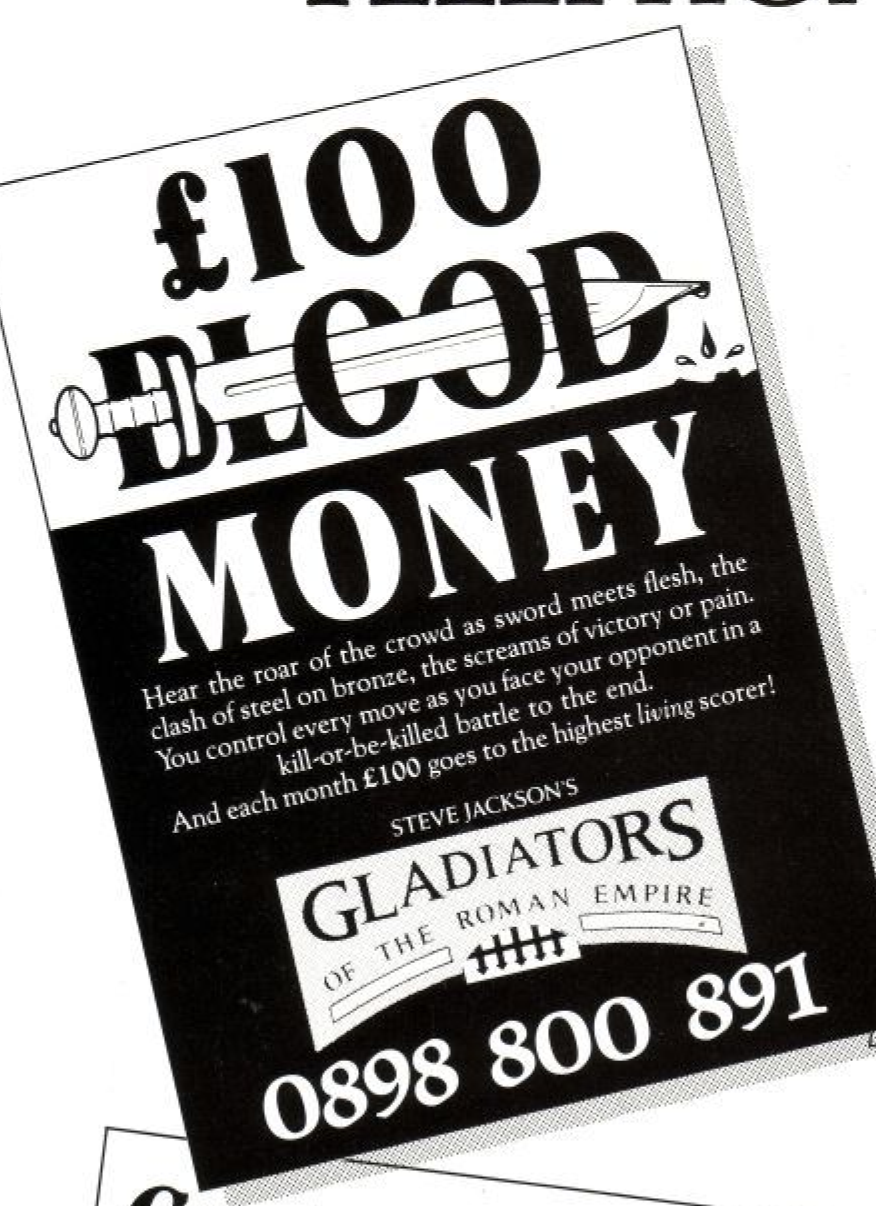
Tobe fair, both Qualitas and Headline can justify proportional text using micro spacing, but Headline has much more tolerance and one terrific advantage – it can be set to re-adjust the content of each line by adding up the actual widths of the characters, which for narrow columns is very important.

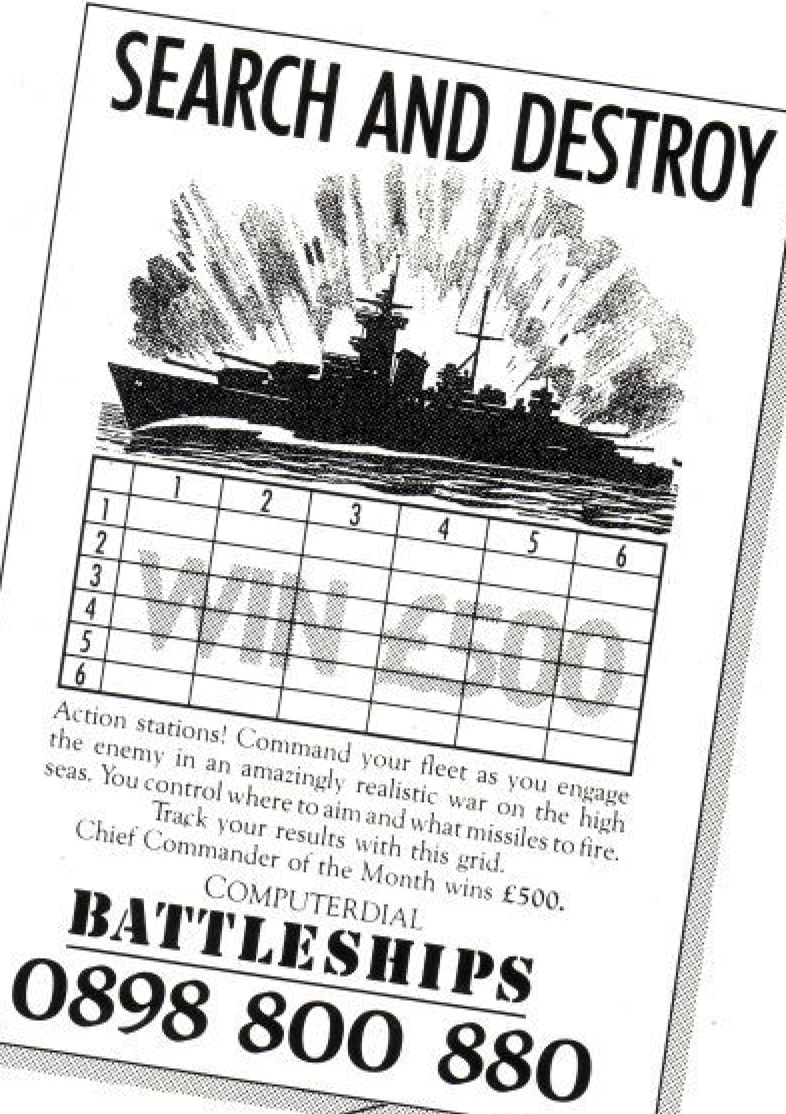
Headline is supplied with 4 font styles in various sizes giving a total of 7 different fonts. All the fonts have proportional spacing and it's quite obvious that much loving care went into the design of each one, giving the overall appearance a very high appeal.

The examples supplied with Headline make it easy to learn and the results are much better than Qualitas, both in flexibility and ultimate print quality. The cheapest headline system (BrunWord Elite, BrunSpell, Headline and an 8 bit port) at just £55 is a remarkable price when you consider that to buy Qualitas with an 8 bit port costs £32, which leaves you needing a word processor and a spelling checker!

Headline gets my well deserved vote of confidence. Easy to use, superb print quality, very good value and an absolute MUST for anyone with a 9 pin printer. Well done Brunning Software!

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Calls cost 25p per min cheap, 38p per min other times (inc. VAT). Touch-Tone phones recommended. Computerdial Ltd., Guildford, Surrey GU1 4JU.

Chug's the name, but you certainly won't be just chugging around the choice of four different race tracks in your souped up race car.. Using A and Z to accelerate and decelerate, and < and > for left and right, you must make three circuits of each track within the time limit. Use the accelerator wisely, and keep an eye on the fuel. If you need to refuel, pull up at the pump with a speed of less than 50 KM/H and you'll make it. If not, you could run dry.



This excellent listing features score indication, lap counter, clock and high resolution graphics, as well as progressing difficulty.

In lines 2100 and 2110, there are memory codes which may well confuse the CPC 664 and 6128. By changing the code &B1C8 to &B7C3, it should make amends. If not, remove it altogether and it won't effect anything except the title screen. Get typing and get driving.

```
10 REM chug
20 REM by S. Mc Cormick
30 REM initialise
40 MODE 1:PEN 1:PAPER 0
50 WINDOW#1,1,26,1,25
60 hi=500:DIM b(3):b(1)=9:b(2)=15:b(3)=3
70 GOTO 2100
80 GOSUB 210
90 PEN 2:FOR i=2 TO 24:LOCATE 30,i:PRINT CHR$(66):LOCATE 39,i:PRINT
CHR$(66);:NE
XT
100 LOCATE 30,1:PRINT"CAAAAAAAAD"
110 LOCATE 30,25:PRINT"EAAAAAAAAF"
120 GOSUB 880
130 SYMBOL AFTER 32
140 PEN 3:LOCATE 32,4:PRINT"SCORE:"
150 LOCATE 32,8:PRINT"LP:TR:"
160 LOCATE 32,12:PRINT"TIME:"
170 LOCATE 32,16:PRINT"SPEED:"
180 LOCATE 32,20:PRINT"FUEL:"
190 GOSUB 210:GOTO 350
200 REM graphics
210 SYMBOL AFTER 32
220 SYMBOL 65,0,255,255,255,255,255,255,0
230 SYMBOL 66,126,126,126,126,126,126,126,126
240 SYMBOL 67,0,7,31,63,63,127,127,127
250 SYMBOL 68,0,224,248,252,252,254,254,254
260 SYMBOL 69,127,127,127,63,63,31,7,0
270 SYMBOL 70,254,254,254,252,252,248,224,0
280 SYMBOL 71,170,85,170,85,170,85,170,85
290 SYMBOL 72,48,120,78,122,126,120,248,120
300 SYMBOL 73,60,153,255,189,36,189,255,153
310 SYMBOL 74,238,68,125,239,239,125,68,238
320 SYMBOL 75,153,255,189,36,189,255,153,60
330 SYMBOL 76,119,34,190,247,247,190,34,119
340 RETURN
350 d=4:sc=0:t=30:tr=1
360 EVERY 50 GOSUB 620
370 GOSUB 820
380 REM main game loop
390 a$=UPPER$(INKEY$)
400 IF a$="," THEN d=d-1:IF d<1 THEN d=4
410 IF a$="." THEN d=d+1:IF d>4 THEN d=1
420 IF a$="A" AND sp<200 THEN sp=sp+10
430 IF a$="Z" AND sp>10 THEN sp=sp-10
440 x1=x:y1=y
450 IF d=1 THEN y=y+1:yy=yy-16:GOTO 490
460 IF d=2 THEN x=x-1:xx=xx-16:GOTO 490
```

```
470 IF d=3 THEN y=y-1:yy=yy+16:GOTO 490
480  x=x+1:xx=xx+16
490 ON d GOSUB 650,680,650,680
500 LOCATE x1,y1:PRINT CHR$(32)
510 PEN 2:LOCATE x,y:PRINT CHR$(72+d)
520 SOUND 1,100+(sp*4),1,15,0,0,sp/15
530 a=200-sp:FOR i=1 TO a/2:NEXT
540 LOCATE 32,17:PRINT sp
550 LOCATE 32,21:PRINT f
560 LOCATE 32,13:PRINT t
570 f=f-1:IF f<1 THEN m$="OUT OF FUEL!":m=3:GOTO 2030
580 IF x=13 AND y=2 AND sp<50 THEN GOSUB 710
590 IF x=6 AND (y=2 OR y=3) THEN GOSUB 770
600 GOTO 390
610 REM decrement time
620 t=t-1
630 RETURN
640 REM collision checks
650 IF TEST(xx,yy+6)=1 THEN m$="YOU CRASHED!":m=1:GOTO 2030
660 IF TEST(xx,yy+6)=3 THEN m$="YOU CRASHED!":m=2:GOTO 2030
670 RETURN
680 IF TEST(xx,yy+6)=1 THEN m$="YOU CRASHED!":m=1:GOTO 2030
690 RETURN
700 REM refuel
710 FOR i=f TO 250
720 SOUND 1,f,1,15
730 f=i
740 LOCATE 32,21:PRINT f
750 NEXT:RETURN
760 REM end of lap subroutine
770 IF d=2 THEN m$="DISQUALIFIED!":m=4:GOTO 2030
780  sc=sc+(t*23)
790 l=l+1:IF l=4 THEN l=1:tr=tr+1:IF tr<5 THEN SOUND 3,200,60,15:GOSUB
    880:GOTO
820
800 IF tr>4 THEN tr=4
810 t=((tr-1)*4)+30
820 PEN 2:LOCATE 32,5:PRINT sc
830 LOCATE 32,9:PRINT l
840 LOCATE 35,9:PRINT tr
850 LOCATE 5,2:PEN 1:PRINT"G":LOCATE 5,3:PRINT"G"
860 RETURN
870 REM print new track
880 SYMBOL AFTER 32:CLS#1
890 READ a$:PEN 2:LOCATE INT((26-LEN(a$))/2),13:PRINT a$:FOR i=1 TO
    1000:NEXT
900 GOSUB 210
910 FOR i=1 TO 25:READ a$:LOCATE 1,i:PEN 1:PRINT a$:NEXT
920 PEN 3:LOCATE 13,1:PRINT"H"
930 xx=151:yy=352:x=10:y=3:f=250:l=1:sp=10:t=30+((tr-1)*4)
940 FOR i=150 TO 50 STEP -50:INK 1,b(i/50):SOUND 1,i,40,15:FOR b=1 TO
    400:NEXT b
,i
950 INK 1,24
960 RETURN
970 REM data for tracks
980 DATA "Beginners Luck"
990 DATA "CAAAAAAAAAAA AAAAAAAAAAAAD"
1000 DATA "B                        B"
1010 DATA "B                        B"
1020 DATA "B  CAAAAAAAAAAAAAAAAAAD  B"
1030 DATA "B  BCAAAAAAAAAAAAAAAAADB  B"
1040 DATA "B  BEAAAAAADCDCAAAAAAFB  B"
```

```
1050 DATA "B  EAAAAAADBBBBCAAAAAAF  B"
1060 DATA "B         BBBBBB         B"
1070 DATA "B         BBBBBB         B"
1080 DATA"EAAAAAAD  BBBBBB  CAAAAAAF"
1090 DATA "CAAAAADB  BBBBBB  BCAAAAAD"
1100 DATA "EAAAAAFB  BBBBBB  BEAAAAAF"
1110 DATA "CAAAAAAF  BBBBBB  EAAAAAAD"
1120 DATA "B         BBBBBB         B"
1130 DATA "B         BBBBBB         B"
1140 DATA "B  CAAAAAAFBBBBEAAAAAAD  B"
1150 DATA "B  BCAAAAAAFEFEAAAAAADB  B"
1160 DATA "B  BEAADCAAAAAAAADCAAFB  B"
1170 DATA "B  EAADBBCAAAAAADBBCAAF  B"
1180 DATA "B     BBBB      BBBB     B"
1190 DATA "B     BEFB      BEFB     B"
1200 DATA "EAD   EAAF  CD  EAAF   CAF"
1210 DATA "CDB         BB         BCD"
1220 DATA "BBB         BB         BBB"
1230 DATA "EFEAAAAAAAAAFEAAAAAAAAAFEF"
1240 DATA "Silverstunned"
1250 DATA "CAAAAAADCAAA AAAADCAAAAAAD
1260 DATA "B      BB        BB      B"
1270 DATA "B      EF        EF      B"
1280 DATA "B  CD      CAAD      CD  B"
1290 DATA "B  BB      BCDB      BB  B
1300 DATA "B  BEAAAAAAFBBEAAAAAAFB  B"
1310 DATA "B  BCAAAAAAAFEAAAAAAADB  B"
1320 DATA "B  BEAAAAAAADCAAAAAAAFB  B"
1330 DATA "B  BCAAAAAADBBCAAAAAADB  B"
1340 DATA "B  BB      BBBB      BB  B"
1350 DATA "B  EF      BBBB      EF  B"
1360 DATA "B      CD  BBBB  CD      B"
1370 DATA "B      BB  BBBB  BB      B"
1380 DATA "EAAAAAAFB  BBBB  BEAAAAAAF"
1390 DATA "CAAAAAAAF  BBBB  EAAAAAAAD"
1400 DATA "B          BBBB          B"
1410 DATA "B          BBBB          B"
1420 DATA "B  CAAAAAAAFEFEAAAAAAAD  B"
1430 DATA "B  BCAAAAAAAAAAAAAAAADB  B"
1440 DATA "B  BB                BB  B"
1450 DATA "B  BB                BB  B"
1460 DATA "B  EF  CAAAAAAAAAAD  EF  B"
1470 DATA "B      BCDCDCDCDCDB      B"
1480 DATA "B      BBBBBBBBBBBB      B"
1490 DATA "EAAAAAAFEFEFEFEFEFEAAAAAAF"
1500 DATA"Doctorin’ Da Track"
1510 DATA "CAAAAAAAAAAA AAAAAAAAAAAAD"
1520 DATA "B                        B"
1530 DATA "B  CD                CD  B"
1540 DATA "B  BEAAAAAAAAAAAAAAAAFB  B"
1550 DATA "B  BCAAAAAADCDCAAAAAADB  B"
1560 DATA "B  EF      BBBB      EF  B"
1570 DATA "B      CD  BBBB  CD      B"
1580 DATA "B      BB  BBBB  BB      B"
1590 DATA "EAAAAAAFB  BBBB  BEAAAAAAF"
1600 DATA "CAAAAAAAF  BBBB  EAAAAAAAD"
1610 DATA "B          BBBB          B"
1620 DATA "B          BBBB          B"
1630 DATA "B  CAAAAAAAFEFEAAAAAAAD  B"
1640 DATA "B  EADCAAAAAAAAAAAADCAF  B"
1650 DATA "B    BB     CD     BB    B"
1660 DATA "B    BB     BB     BB    B"
```

```
1670 DATA "EAD  BB  CD BB CD  BB  CAF"
1680 DATA "CAF  BB  BB EF BB  BB  EAD"
1690 DATA "EAD  BB  BB    BB  BB  CAF"
1700 DATA "CAF  BB  BB    BB  BB  EAD"
1710 DATA "EAD  BB  BB    BB  BB  CAF"
1720 DATA "CAF  EF  BEAAAAFB  EF  EAD"
1730 DATA "EAD      BCDCDCDB      CAF"
1740 DATA "CAF      BBBBBBBB      EAD"
1750 DATA "EAAAAAAAAFEFEFEFEAAAAAAAAF"
1760 DATA "Brands Hitch"
1770 DATA "CAAAAAAAAADC ADCAAAAAAAAAD"
1780 DATA "B         EF  EF         B"
1790 DATA "B      CD        CD      B"
1800 DATA "B  CAAAFEAAAAAAAAFEAAAD  B"
1810 DATA "B  EAADCAAAADCAAAADCAAF  B"
1820 DATA "B     BB    BB    BB     B"
1830 DATA "BCAD  BB CD BB CD BB  CADB"
1840 DATA "BB B  EF BB BB BB EF  B BB"
1850 DATA "BCAF     BB BB BB     EAFB"
1860 DATA "EAAAAAAAAFB BB BEAAAAAAAAF"
1870 DATA "CAAAAAAAAAF BB EAAAAAAAAAD"
1880 DATA "B           BB           B"
1890 DATA "B           BB           B"
1900 DATA "B  CAAAAAAAAFEAAAAAAAAD  B"
1910 DATA "B  BCAAAAAAADCAAAAAAADB  B"
1920 DATA "B  BB       BB       BB  B"
1930 DATA "B  BB       BB       BB  B"
1940 DATA "B  BB CAAD  BB  CAAD BB  B"
1950 DATA "B  BB BCAF  BB  EADB BB  B"
1960 DATA "B  EF BB    BB    BB EF  B"
1970 DATA "B     BB    BB    BB     B"
1980 DATA "B     BB  CAFEAD  BB     B"
1990 DATA "EAAAAAFB  EAAAAF  BEAAAAAF"
2000 DATA "CAAAAADB          BCAAAAAD"
2010 DATA "EAAAAAFEAAAAAAAAAAFEAAAAAF"
2020 REM crash
2030 PEN 2:LOCATE x1,y1:PRINT CHR$(72+d)
2040 PEN 2:SYMBOL AFTER 32:LOCATE 8,13:PRINT CHR$(22)CHR$(1);m$;CHR$
     (22)CHR$(0)
2050 FOR i=1 TO 100
2060 SOUND 1,100+(4*i),3,15,0,0,5
2070 INK 1,RND*13
2080 NEXT
2090 REM title screen
2100 CLS:PEN 1:CALL &BC02:POKE &B1C8,0:LOCATE 9,2:PRINT "CHUG"
2110 POKE &B1C8,1:LOCATE 17,3:PRINT"__________"
2120 IF m=1 THEN LOCATE 4,5:PRINT"You are out for wreckless driving."
2130 IF m=2 THEN LOCATE 5,5:PRINT"You had a head-on with the pump."
2140 IF m=3 THEN LOCATE 3,5:PRINT"You can't even read your fuel gauge."
2150 IF m=4 THEN LOCATE 10,5:PRINT"You are a dirty cheat!"
2160 IF sc<0 THEN LOCATE 8,6:PRINT"And you are far too slow."
2170 PEN 3:LOCATE 8,8:PRINT"Guide the car around three"
2180 LOCATE 12,9:PRINT"laps of each track."
2190 IF sc>hi THEN hi=sc
2200 PEN 2:LOCATE 15,14:PRINT"SCORE:"sc
2210 LOCATE 12,16:PRINT"HI-SCORE:"hi
2220 PEN 3:LOCATE 10,24:PRINT"PRESS [SPACE] TO PLAY"
2230 RESTORE 980
2240 WHILE INKEY$="":WEND
2250 WHILE INKEY(47)=-1:WEND
2260 CLS
2270 d=4:l=1:tr=1
2280 GOTO 80
```

STOP THE PRESS

Marc Jones investigates add-ons galore to wash away those DTP blues.

Someone once said to me "You're as good as your printer" which in desktop publishing terms holds a great deal of truth. You could have the best software in the world but if you haven't got the printer to match, the end result would not justify the time and expense spent on a particular job. Whether that person was a printer salesman or not does not matter. It is however, an example of how everything in the computer world always relies on some other application or piece of hardware to make it all worthwhile.

In the same sense DTP software, especially for the CPC, tends to be limited in its variety of possible typefaces and consequently, often relies on additional applications. Of the few CPC DTP programs Stop Press is undoubtedly head and shoulders above the rest but is still limited in its variety of possible outputs.

With Stop Press the user is offered a choice of only one main typeface entitled the Amstrad font. Font sizes are adjustable but the results are limited and often tedious. Now thanks to CPC guru Medway-King, the makers of the Stop Press and X-Press, more fonts have arrived on the scene.

Who needs extra fonts and why ? Fonts can depend on the intended use of a DTP program. For example if you are creating a leaflet for distribution you will probably need more than one typeface to make the page standout. One font could be used but it seems pointless if you are trying to make an impact. Large bold fonts would be ideal to catch the eye.

Musicians have special requirements. If a musician wishes to present a musical piece by DTP there is little until now, offering music symbols such as quavers, treble clefs and so on.

Medway-King has consequently introduced BIGfonts and MUSICfonts to satisfy the user in search of typefaces for special documents. Another release containing crammed page frames called X-Frames is also available from the same camp. Each Stop Press addition however has to run through Medway-King's utility program X-Press.

X-Press will store files for Stop Press by cramming them into a smaller space. Page files can be reduced to as little as 6K. The new font discs contain crammed files that have to be loaded to Stop Press via X-Press which will "uncram" the data.

The MUSICfonts are perhaps the most interesting of this new Medway-King range. Designed especially for musicians with a need to detail their manuscripts, the fonts include all the possible typefaces and symbols necessary for musical scores. From treble clefs to crotchets and quavers MUSICfonts will provide the musical DTP player with a wide range of possible symbols.

The fonts are loaded via X-Press using the "Load" option in the "Font" menu of Stop Press. Once loaded the options are displayed in an easy-to-use menu form and can be selected in the usual fashion using the <Execute> function.



Once you have loaded the font disc music can be written onto the page using the keyboard providing you have the chart detailing which keys correspond to which of the music symbols. Characters can also be selected and pasted on using the <Symbol> command. The options should suit most people as writing music on-screen with these fonts is extremely easy.

The advantage of X-press is also apparent with the staves for a manuscript page. The condensed print modes of X-Press allow neat staves to be created with thin lines as opposed to the thick-lined option of Stop Press itself. This is extremely important as writing music symbols over the staves will consequently be clear and ordered. Whether you are a music teacher, a backroom composer or beginner, the advantages of the MUSICfonts are enormous.

For the user bored with small fonts, Medway-King's BIGfonts offers a wide range of possible font options. Although Stop Press fonts can be enlarged they are often chunky. BIGfonts offers a set of totally new fonts which are derived from 18 one inch high fonts as CUTOUTS.

These fonts which include Bold, Italic, Old English and Script, add a meticulous touch to Stop Press pages not just because they offer a variety but also because their size does not give way to quality. All the BIGfonts are nicely finished with smooth edges.

Unlike MUSICfonts, X-Press is not needed. The BIG fonts can be loaded direct using the <Load> command from the "Font" menu. Once loaded they are ideal to use for posters where large fonts are needed to catch the eye. They are also ideal for mailshots for the small

business user or pamphleteers among you. The Old English and Script fonts add a particular flavour to pages adding weight to the argument that it may be time to throw away that old potato printing set.

Moving quickly away from the wily world of fonts, Medway-King has a disc entitled X-Frames which offers the user 16 crammed page frames and a specially cut down version of X-Press called Build. Acting as a demonstration disc for X-Press, X-Frames also enables the restoration of Stop Press Page Frames.

Printer routines are also included within X-Frames at Draft and Draft High Speed. The disc is important for this feature alone as well for the crammed page frames. The additional feature of an X-Press demonstration means that users can obtain an insight into the utility program to weigh-up whether the addition is essential.

For any CPC DTP user, Medway-King's optional are unavoidable. They are neither ambitious or complicated but cover specific areas where the Stop Press user may wish to expand and obtain agreater control. Firstly X-Press should be given considerable thought because of its widespread advantages (see ACU in October 1989). The fonts are aimed at more specific users, in particular the MUSICfonts but at £9.95 the option is accessible to almost any user. The Stop Press DTP package is significant for CPC users anyway but with the additional options provided by Medway-King, DTPers can wallow in features more reminiscent of larger, more expensive systems.

Marc Jones

PRODUCT DETAILS
Medway-King
Tel: 0703 442591

STOP PRESS and X-PRESS (with mouse):	£79.95
STOP PRESS and X-PRESS :	£49.95
X-PRESS:	£24.95
MUSICfonts:	£9.95
BIGfonts:	£9.95
X-FRAMES:	£9.95

Fan Mail

Gordon Gets a letter, and comes over all unnecessary – then looks at some ethics of comms and BBS usage, as well as some techy bits.

Wahey!! I've been and gorn and got a letter – just like the ones my bruvver the Doc gets. C J Scott is the person(ess) who sent it, and he/she/it raises some salient points in it. For your delectation, and because I'm chuffed, here is what he/she/it says:

Dear Gordon,

I have been reading your comms column ever since it first came out and have been very interested in communications for a while. (that's a great start, CJ, keep on trucking! – GB). At the moment I have a Dacom systems autodialing modem, which was given to me by a friend. I am not sure whether it works or not. I do not have an RS232C interface however. If I can get the modem tested at a computer shop or similar, I will probably buy an interface so that I can link it up to my CPC6128. Could you please tell me a few things before I go ahead and purchase the interface?

Will the comms package in Mini Office II be sufficient for me to use? When I want to upload programs to various Bulletin Boards, what kind of programs can be uploaded? For example, could I upload a game which I bought in the shops, or would it have to be a home typed program?

When I buy an RS232C will it have the suitable connections from my computer to the modem?

When I want to access BBSs such as will the price differ from that of the Micronet/Prestel service?' Shall we, 'cos I suspect that ol' CJ isn't on his/her/its own on these ones.

First things first (seems sensible) Amstrad box that had its own power supply going to it. Said box hasn't been around for some length of time now, so I'm afraid that what you've got (if you've got it) is unlikely to be much use to you in respect of comms. (I wonder if a quick jellybone call to Database Soxware might elicit a new version?? I'll give em a buzz after Septober, I think – they're a bit busy at the mo, what with this Fun School 3 stuff).

Don't lose heart, though, all is not lost. You see, unless you're very unlucky, when you buy your brand spanking new RS232C interface, it'll have some software already inside it, sitting on a ROM, all ready for you to fire it up and get communicating. Erm, I need to jump a question here (unlike the doc – he's just TOO organised for words!).

Now, when you say the 'suitable connections', I take it you mean the lead?? If so, it's a no-no. Some do, some don't, but the chances are you'll have to lay out a few quid more for a suitable lead – they're cheap enough to have a couple spare – I do! Check out the very first two articles in this epic series (read, I understand, by the Queen's Corgis) which ought to fill you in a little bit more.

OK, backtrack a bit to the question I skipped. Uploading stuff. Right. First off, I MUST congratulate you on a wonderful attitude. I'm glad to see that you intend putting stuff up there for people to download, as well as grabbing proggies down for your own private little collection. I've got to say that the troughies do nark me more than a little bit, and it's mainly down to them that as many of the private systems are starting to put a charge on for full privileges.

I honestly feel that if people uploaded a bit of something every time they troughed three or four files off a BBS, the sysop would be so chuffed he'd never think about slapping a charge on the thing. Of course, you still get the greedy beggars who want to make a few bob. That's fine by me, as long as they come clean and don't say it's to 'upgrade the gear and keep things moving'. Pah! I know of a couple that charge 25 a year, and have over 500 users that pay that much. Do some sums, and you'll see that that works out at twelve and a half grand a year. Strewth! I know some journalists that don't earn that much in a year (do I?). What really gets to me is that they won't own up to being a commercial service, and bleat it's for 'upkeep'. Bagh!! You could buy a couple of ginormous IBM compatibles and some hyperfast modems for that kind of dosh, and still have a few bob left over to blow on a slap up nosh at an expensive London Restaraunt each week for a year.

Ahem! Whoops, sorry, got on the soapbox a bit there. Still you get the drift, I take it. If you grab some, put some back. Now, as to what you can upload, the stuff you go out and buy from the shops is definitely NOT what you can upload. It's copyright, and there's an organisation called FAST on the lookout for people who do that sort of thing. What's more, they're prosecuting them, and giving folks a thoisand

poind (as Gloria Hunniford would say) for shopping the perps. Steer well clear. It's illegal, immoral, and loses you friends. Plus you'll smell like an old ashtray, go blind, and your teeth will drop out. Need I say more? No? Good

What you CAN upload to BBS systems includes anything you've written yourself (not something you've typed in from a magazine listing), or something you've downloaded from another BBS that the one you're calling doesn't have, assuming it's not copyrighted material. For instance, say you get a disc full of Public Domain programs from a PD library somewhere. PD software is free of any restrictions as to its dissemination, so you can freely upload the contents of your disc to any BBS you like, and the sysop will thank you



for it, assuming he hasn't already got it. That's the kind of thing. People who upload lots of stuff to BBS systems get a good reputation, and are welcomed with open arms. I know the sysops of Maxwell House are over the moon with a few people who have the lovely habit of bunging stuff up there (and they keep a check on what goes on, you know). They're also a bit peeved with one or two (not CPC users, I hasten to add) who delight in troughing lotsa stuff down, and never put anything back.

And finally, before I get onto another soapbox, pricing on Maxwell House. It's free. Costs you nothing. Micronet isn't. You pay a yearly subscription, and have all of the benefits that membership entails. With Maxwell House, you get no promises, no fancy graphics, and no charges, but you become part of a wonderful group of people who all have similar delights in comms, and get to take part in all manner of discussions. The same applies to a lot of other BBS systems – but beware of the ones that charge...... Ahem!!

That's about the size of it for this month – my bruvver the Doc has just been on the jellybone to tell me that some anonymous brown boxes have arrived from a certain company that makes CPCs, so I'm off round to his place to see what all the fuss is about. Still I expect you already know about them. Hmph!

Take care till we meet again, and let me leave you with a final thought. Why don't you get lemonade in an Irish pub?? Cos they've lost the recipe! Tara!

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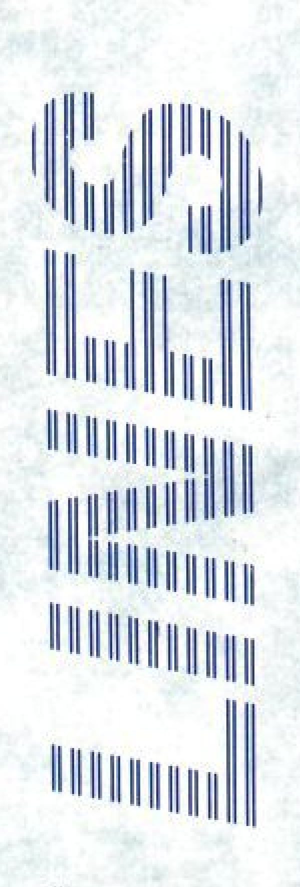
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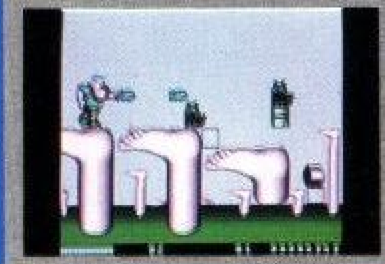
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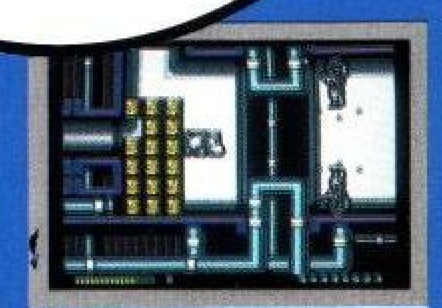
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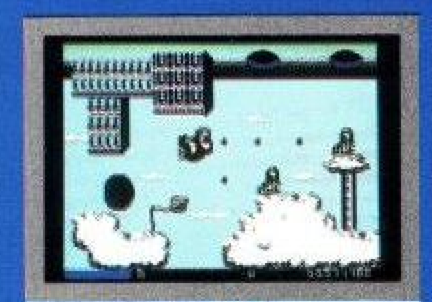
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